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GOLDEN RULES

OF

PEDIATRICS

MEDICAL GUIDE AND MONOGRAPH SERIES

GOLDEN RULES

OF

PEDIATRICS

APHORISMS, OBSERVATIONS, AND PRECEPTS ON THE SCIENCE AND ART OF PEDIATRICS. GIVING PRACTICAL RULES FOR DIAGNOSIS AND PROGNOSIS, THE ESSENTIALS OF INFANT FEEDING, AND THE PRINCIPLES OF SCIENTIFIC TREATMENT.

BY

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TO

E. W. SAUNDERS, M. D.,

OF ST. LOUIS,

AS A SINCERE TRIBUTE TO HIS PROFESSIONAL ABILITY
AND CHRISTIAN CHARACTER,

THIS BOOK IS DEDICATED BY HIS GRATEFUL FRIEND,

THE AUTHOR.

PREFACE TO THE SECOND EDITION.

Additional observation and experience has confirmed my conviction that short, practical rules are interesting and useful. The favorable reception accorded the first edition also indicates that medical maxims are welcome to busy practitioners. Quite a number of new rules that experience has demonstrated to be useful have been added to this second edition under the various headings.

This work should by no means be considered a text-book for teaching the subject of pediatrics. Its purpose, as indicated in the preface to the first edition, is to furnish the busy practitioner with practical suggestions in diagnosis and treatment. It is especially in diagnosis that certain concise directions are helpful; for example, when a child complains of pain and tenderness in the right iliac region, it is well for the physician to bear in mind that an examination of the right lung is necessary. Working formulas receive the greater consideration when stated in terse propositions.

I feel, therefore, that this simple book of maxims will have a place in the general practitioner's library.

JOHN ZAHORSKY.

St. Louis, April, 1911.

PREFACE TO THE FIRST EDITION.

Ever since the days of Hippocrates, aphorisms have been a favorite mode of expressing the essential truths of a medical science. Especially today, when the modern spirit of investigation has made the art of pediatrics depend on so many scientific inquiries, it is necessary, at times, to state essential practical points in a concise form. In reading an elaborate text-book there are some propositions which naturally make a stronger impression on the mind than others equally important; hence some kind of guide is necessary to pick out the most valuable conceptions.

In the following pages the aphorisms and precepts are composed of propositions which, to me, appear the most valuable; it is entirely a personal choice. I will be pardoned if some precepts emphasize points which I believe the general profession has overlooked or wherein it has erred. We all have "cypress trees" which we paint in every picture.

Here and there, as will be noticed, additional propositions of less importance have been added in order to make the subject more complete.

The knowledge herein conveyed is the knowledge of the profession; for the mode of presenting it I

am alone responsible. Some favorite ideas are controverted by good authority, but nevertheless a book of aphorisms, having personal views back of it, is probably more interesting, if not more valuable, than a compendium of undisputed maxims.

JOHN ZAHORSKY.

St. Louis, August, 1906.

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INTRODUCTION.

Happily it is no longer necessary to prove that pediatrics is a specialty. The universal conscience of the medical profession acknowledges it to be true, and the practical results justify the contention. By *a priori* reasoning this truth could never have been established, for all other specialties are based upon limitations of the field of practice by organs or by diseases, while our field has for its delimitation the age of the patient. It is hard to compare things that differ so widely, and, if any stickler for analogy will find a better generic term than "specialty" to denote our chosen domain, we will gladly accept it.

But the difficulties of the subject are not confined to the nomenclature, as the aspiring young pediatrist soon discovers. First of all, the personality of the physician must be considered; for a serious defect there will sadly mar an otherwise hopeful career. No man devoid of an overmastering love for children or lacking in patience need attempt to fit himself for this sphere of usefulness. It should also be borne in mind that a sincere devotion to the cause of infant humanity precludes the possibility of reaping the largest monetary rewards of the profession.

In private practice it is simply impossible to attend more than half the number of young children

as of adult patients, because of the time required for observation, as well as physical examination, and because of the fact that the attendants must be heard, however tedious the discourse, as well as be interrogated and educated at every visit. The environment, too, must be studied in all cases. In one case of pernicious vomiting I discovered the cause in a gas stove kept burning all night in an air-tight sleeping room.

Sometimes the physician is the sole friend on earth that the little patient has; and criminal intent or criminal neglect, as well as gross ignorance, must be sought out and combated. Too often has it happened that there has been a gross error in compounding the food mixture prescribed, and it is well to examine it and to have a rehearsal of its preparation. The medicine, too, and the mode of its administration should be matters of diligent inspection and inquiry.

The educational difficulties of the subject are great and inherent. It is self-evident that the pediatrist must be thoroughly acquainted with syphilis and with all of dermatology incident to childhood, with the nervous diseases of children, as well as with the whole domain of general medicine. The knowledge of the chemistry of milk and of all foods suitable for children, and the practical adaptation to dietetics, must be his.

Infant mortality is still, sad to say, the opprobrium of modern civilization, and the most surpris-

ing part of the story is that this mortality is greatest in the most enlightened centers. Surely nothing but inhumanity can account for this sad fact.

In the last two decades diphtheria antitoxin and rational feeding have marked the beginning of a new epoch, but even these discoveries have not been utilized to the full extent as yet. We hope for the time to come when every death by diphtheria shall be the subject of a coroner's inquest. The federal government has done well in controlling the output of antitoxin, but is remiss in permitting it to be sold at any stage of deterioration from age. I have seen some deplorable results from this crying evil. Until this is remedied the physician will do well to use the imported serum or only such as is fresh, and that in overwhelming amount. Every sore throat demands antitoxin unless on sight it can be proven that it is not diphtheritic. The possibility of a primary diphtheria implanted upon an eczematous surface should not be forgotten. One of the most puzzling cases that I ever encountered was that of primary diphtheria of the meatus urinarius, conveyed by a tooth-pick used by a surgeon to open up the passage.

It might be instructive to enumerate the diseases of children which have been, in my experience, most often overlooked:

Acute pyelitis—most frequently of all.
Empyema (following pneumonia).
Otitis media.

Acute poliomyelitis.
Cerebrospinal meningitis.
Rickets.
Barlow's disease.
Endocarditis.
Various reflex disturbances due to phimosis, especially painful abdominal neurosis.
Intestinal obstruction.
Pyloric stenosis.

Aphorisms by no means signify final or undisputed truths, but, when selected by one who has had a wide experience and is thoroughly acquainted with the best pediatric literature, they may serve a useful purpose, especially when interspersed with practical rules and precepts.

E. W. Saunders.

GOLDEN RULES OF PEDIATRICS

PART I.

GOLDEN RULES OF DIAGNOSIS.

GENERAL RULES.

Practice the quiet manner and the gentle voice.

Win the confidence of the children; do not frighten them.

Undressing the child completely is always necessary to make a thorough physical examination, but it may be unnecessary to make a complete examination.

Always tell the child the truth; it imparts confidence. Nothing is worse than to state that you will not hurt the child and then do so.

The order in which you obtain the facts in studying a case is not essential, provided you get all of them.

It is as necessary to inquire carefully into the susceptibilities and immunities of the patient as into the nature of the present illness. Some diseases give an immunity (measles, chickenpox, etc.), others increase the susceptibility (rheumatism, tonsillitis, endocarditis).

The infant is peculiarly susceptible to diseases of

the digestive tract; the child, because it comes in contact with others, contends mostly with the contagious diseases.

Never fail to observe the expression of the face, the movements of the limbs, and the rapidity of the respiration while the attendant is relating the history of the illness.

Do not forget to inquire carefully into the past feeding of the infant; it may throw light on the diagnosis and will aid you in treatment.

Remember that a nutritive disorder and infectious disease may be coexistent. Separate the symptoms of one from those of the other.

Diagnosis of disease in the infant is easy, as a rule, because the diseases are less complex than in the adult.

PHYSICAL EXAMINATION.

Remember that inspection is the most valuable of all means employed for physical examination. Learn to look for abnormalities.

Remember to inspect every part of the body to which your attention has been called by other symptoms.

Attention should always be given to the general nutritive condition of the body. Estimate the size and weight of the infant as compared with a normal child of the same age.

Do not forget to notice the color of the skin and mucous membrane. Icterus and cyanosis should be revealed at a glance.

Do not forget to inspect the mucous membrane of the mouth and the throat in every acute disease.

Always inspect both chest and abdomen for any deviation from the normal contour. Local bulging or depression should be investigated.

The pigeon breast is usually caused by rickets; the funnel chest may be congenital.

Be sure to recognize spinal curvatures in young girls. It is often overlooked.

An eruption will not be overlooked if the child is always undressed at the physical examination.

Marked swellings in the cervical region are usually due to enlarged lymph nodes, and generally indicate some infectious process in the nose or throat.

Always notice the shape and contour of the head; prominences may be due to rickets—rarely to syphilis. A flat occiput is common in rachitic babies, who lie on their back continuously.

Do not fail to notice the retraction of the suprasternal fossa and lower ribs in dyspnea. It may be normal in young infants.

Prominent veins over the anterior surface of the chest have no significance unless other symptoms are present. They do not indicate tuberculous bronchial glands.

The respiratory movements may often be seen to lag on one side. Notice Litten's phenomenon in older children.

Deep breathing is the most characteristic symptom of dilatation of the right ventricle of the heart.

Always notice the various muscular movements in estimating the nutrition of the child, as well as the nervous condition.

Disagreeable procedures should be left last in the examination; for example, inspection of the throat or percussion of the chest.

Palpation deserves the next place in physical exploration. Learn to feel things.

Remember that nutrition is manifested by the size of the child, the fatty deposits, and muscular development. Be sure to palpate the bones for evidence of rickets.

Beware of inserting your finger in the mouth of the child for the purpose of palpating any tumor or swelling, especially in feeling for adenoids, without some kind of protection against the patient's biting.

Do not forget to feel the pulse beat in every child; it makes you acquainted with the wide range in its variations.

Remember that a fremitus is often found in bronchitis with moist rales; do not mistake it for the friction fremitus of pleurisy.

Remember that the abdomen should be carefully palpated in every acute fever and in every gastro-enteric disorder. Do not fail to find an overfilled bladder.

Bear in mind that the edge of the liver can be felt often in a normal child; with this exception, nothing should be felt in the normal abdomen. The muscular resistance should be uniform.

Always locate the apex of the heart by outlining the surface topography and not by palpating the precordium.

No instrument has been devised that is equal to the unaided ear applied to the chest for hearing sounds within. The stethoscope is more convenient, and with it you can reach parts of the body otherwise inaccessible to the ear, as the supraclavicular space, the neck, and the axilla.

Learn to use the stethoscope, but, better still, train your unaided ear.

Do not mistake the gurgling sounds of the intestines for bronchial rales.

Remember that normal puerile breathing sometimes resembles bronchial breathing.

It is possible in some children to hear the breath sounds with the stethoscope over the abdomen; in peritonitis this phenomenon may be very marked.

Percuss very lightly in infants—one finger as a pleximeter and one as the percussion hammer.

Do not depend too much on percussion sounds alone. The subcutaneous deposition of fat causes marked differences in the chest sounds of different children.

Be sure to have regard for symmetry and immobility of position in percussing or auscultating the chest; one arm up and the other down will lead to error.

The cracked-pot percussion sound has little significance in young children unless other signs of a cavity are unmistakable.

Remember that a normal spleen is difficult to outline in children unless by auscultatory percussion.

Practice percussing the abdomen; much may be learned in this way.

Make it a practice to measure different parts of the body; it is useful for record.

LOSS IN WEIGHT.

The best measure of nutrition is the weight of the child. Insist that the infant under your care be accurately weighed once a week, or even daily in digestive disorders.

Remember that an infant should double its weight at birth by the end of the fifth month; it should treble its weight by the end of the first year. It should gain at least six ounces every week during the first half year.

In general, a baby loses in weight in every acute infectious disease and in every gastroenteric disorder.

Loss in weight in the breast-fed infant often signifies that the baby is obtaining an insufficient amount of milk. Weigh the baby before and after nursing to ascertain the quantity which it receives.

Remember that a loss in weight in breast-fed infants, not due to digestive disturbance, may be caused by pregnancy of the mother.

Remember that a loss of weight, when no fault is found in the food or digestion, may indicate the incubation stage of some infectious disease.

Always ascertain accurately the quantity and composition of the food which the infant is receiving before concluding that insufficient gain in weight is due to insufficient food.

Remember that a rapid gain in weight may be produced by the retention of fluids in the tissues, as in edema.

A rapid increase in weight sometimes immediately precedes death.

Diabetes mellitus in children is generally characterized by a rapid loss in weight.

In extreme degrees of emaciation do not diagnosticate marasmus without careful inquiries concerning the chronic infectious diseases, syphilis and tuberculosis. Small collections of pus in the lungs, pleural cavity, or even the ear may prevent a marasmic body from recovering indefinitely.

The best sign in differentiating marasmus from tuberculosis is the extreme variability of the rectal temperature in the latter disease. In the absence of physical signs the temperature test should be made. Have the rectal temperature taken every three hours for several days.

APPETITE.

Nothing is so variable as the appetite in children.

Remember that in all severe diseases—pneumonia, ileocolitis, typhoid fever, diphtheria, scarlet fever, etc.—there is a period when the infant will take no food. Be prepared for this.

Remember that an ill-ventilated, stuffy sleeping room is a very common cause of anorexia.

Infants often refuse food for one or more days when abruptly weaned from the breast or bottle.

In neurotic children persistent and even dangerous anorexia has been known to occur—anorexia nervosa.

Adenoids are a common source of anorexia in children. Examine the nose and throat in all cases in which a poor appetite is a prominent symptom.

Overeating should suggest an examination of the kidneys for sugar. The symptom is sometimes found in intestinal worms.

Excessive thirst needs inquiry into the condition of the urine—diabetes mellitus or insipidus.

Dirt eating is most commonly due to improper feeding.

CRYING.

Always exclude hunger and thirst in a baby who cries incessantly.

Remember that severe colic occurs more often in breast-fed infants than in those artificially fed.

It is difficult at times to separate the crying of anger and that of colic; in fact, they are often associated.

Discomfort from wet napkins and from being tired of lying in one position is a common cause of crying.

Do not mistake colic for intussusception. Always

palpate the abdomen carefully in every case of severe crying.

Do not forget an overdistended bladder in all cases of crying and convulsions. Palpate and percuss the abdomen carefully.

Severe crying, with a little fever and a preceding coryza, suggests an otitis media. Use your head mirror and ear speculum.

The crying of pleurisy, peritonitis, and pneumonia is usually a suppressed moan.

Do not expect to make a diagnosis of tuberculous meningitis from the hydrocephalic cry. A similar cry occurs in bone diseases, some forms of indigestion, and in the meningismus of acute infections.

Notice whether the cry accompanies any special function or act—such as urination.

Crying severely on handling of the limbs in infancy does not suggest rheumatism, but in all cases look for scurvy. Inspect the gums, the mucous membrane, and inquire into the history of the feeding.

Do not fail to inspect the penis in little boys who are crying; phimosis and paraphimosis may be easily overlooked.

The first symptom of appendicitis in infants is a crying paroxysm, which may be unaccompanied by fever.

CONVULSIONS.

Do not conclude that the child who has an eclamptic seizure has eaten something unusual or indigest-

ible. Examine your patient as soon as you have quieted the convulsions with a little chloroform.

Never fail to take the rectal temperature. In the majority of cases you will find a very high fever, though the skin is cold.

Search for the cause of this fever as you would for any other fever. The convulsion most commonly occurs at the onset of an acute infectious disease or at a recurrence of the febrile stage.

In malarial regions malarial infection is a more common cause of convulsions than eating green apples; yet an inquiry into the conditions of the gastroenteric tract should always be made.

An adherent prepuce alone is not a very common cause of convulsions.

Teething alone is not a very common cause of convulsions. Look for other causes.

Examine carefully for evidence of rickets in non-febrile convulsions. There is an irritability of the nervous system commonly associated with, if not caused by, rickets called tetany, in which irritable state convulsions—tonic and clonic, local or general —are extremely likely to occur.

Examine carefully for Chvostek's and Trousseau's signs; their presence indicates tetany.

Laryngospasm is a symptom of tetany and frequently explains the "internal spasms" described by the mother.

In all cases seek rather the cause of the heightened irritability—fever, rickets, nervous diseases, etc.—than the external irritant.

Frequently repeated convulsions with fever suggest meningitis in a child who has previously been healthy.

Repeated convulsions on different days with little fever suggest rickets.

A tonic contraction of the arm or limb suggests tetany; look for the signs of rickets and Chvostek's sign—that is, supraorbital twitching on tapping the facial nerve near its external origin.

Repeated nonfebrile convulsions not induced by the irritability of tetany suggest epilepsy.

Remember that any chronic disease of the brain may at any time during its course reveal convulsive seizures.

Do not fail to examine the urine in every obscure convulsive seizure in children; an acute nephritis may show itself first in this way.

It is well to bear in mind that convulsions during the course of pertussis may be induced by the violence of the coughing paroxysms; it may be cerebral hemorrhage.

Hyperpyrexia from insolation usually ends in a convulsive seizure.

Remember there is a form of laryngospasm which comes on after very severe attacks of anger in neuropathic children. It is not often serious.

In all convulsions of obscure origin examine the patient for the following disorders:

Distended bladder.

Foreign body in the ear.

Phimosis.
Injuries.
Intussusception.
Diabetes mellitus.
Fissure of anus.
Otitis media.
Cryptorchidism.
Burns.
Difficult dentition.

Inquire carefully into the possibility of:

Gastroenteric irritant.
Helminthiasis.
Poisoning.
Lithiasis.
Dysentery.
Hysteria.

Do not forget that endocarditis may result in cerebral embolism, which may show itself first by a convulsion.

Search for the cause of a convulsion as for any acute disease. Always exclude meningitis as soon as possible in order to reassure the parents. Never fail to tell the mother that convulsions at the onset of any acute disease are only exceptionally fatal.

HEAD AND NECK.

Do not mistake a swollen lymph gland for mumps. The former is more circumscribed and movable.

The hematoma of the sternocleidomastoid is a hard swelling; a cephalhematoma fluctuates.

Cyanosis in the premature infant does not indicate atelectasis; it usually signifies exhaustion of the breathing apparatus.

Remember that mild forms of hydrocephalus are caused by rickets and are curable.

A bulging anterior fontanel indicates increased intracranial pressure. Associated with an acute fever, it suggests leptomeningitis.

When the stethoscope is placed over the fontanel, a bruit is often heard. It has no significance.

Do not believe that a bruit at the root of the neck when the head is extended or turned to one side indicates an enlarged bronchial gland. It has no significance.

A retracted head and rigid nucha, while characteristic symptoms of cerebrospinal and tuberculous meningitis, may occur in many atrophic infants. It occurs also in some forms of cerebral diplegia.

Swelling of the thyroid gland is very rare before puberty, except in acute local infections.

Swelling of the cervical lymph nodes occurs most commonly after infections of the nose and throat, but it may be due to facial eczema. Do not rail to look for caries of the teeth as a cause of enlarged nodes.

The black eye, ecchymosis around the eye, coming on without injury, suggests scurvy.

A swelling immediately in front of the ear, not specially circumscribed and immovable under the skin, suggests parotitis. Do not make a diagnosis

of mumps on the occurrence of a sharp pain in the throat when an acid is swallowed.

Remember that there are some lymph nodes immediately in front of the ear. These may become infected, enlarged and swollen, and simulate mumps.

Enlarged glands occurring immediately below the lobule of the ear suggest that an examination of the middle ear and the nasopharynx should be made.

Do not mistake an enlarged lobe of the thyroid gland for an enlarged lymph node. Graves' disease may occur in children, and produce very puzzling nervous symptoms. Remember that the thyroid moves up and down during the act of deglutition.

Cervical Pott's disease produces a stiffness of the neck; do not overlook this serious disease.

Remember that persistent sinuses in the neck are usually remains of the brauchial clefts or tubercu lous adenitis. Inquire carefully into the history.

SOME DEFORMITIES.

Remember that the square head of rickets does not indicate any disease of the brain.

Do not forget that habitual lying on one side causes asymmetry of the skull in infants. Persistent lying on the back of the head often causes flatness of the occipital region.

Deformities of the thorax are most commonly caused by rickets and pulmonary disease. Soft bones and persistent stenosis of the nostrils are sufficient to cause flaring of the lower ribs.

Scoliosis is not always caused by faulty posture.

Remember that bulging in the precordium occurs in cardiac hypertrophy of young children; it may also occur in pericarditis with effusion.

A slight beading of the costochondral junction may be physiologic.

Remember that a spindle-shaped swelling of the phalanges, chronic in character, suggests tuberculosis, while luetic osteitis may occur at the terminal phalanges.

Clubbing of the fingers does not always suggest tuberculosis. It occurs in cardiac deformities, chronic bronchitis, bronchiectasis, empyema, and heart diseases.

Remember that an acute painful swelling of the long bones may occur in scurvy as well as osteomyelitis.

Do not mistake the lordosis due to congenital dislocation of the hips for Pott's disease.

Bow-legs and knock-knees are most commonly caused by improper curvature of the tibia.

TEETH AND GUMS.

The eruption of the first lower incisor occurs usually between the sixth and seventh month; earlier than this is very common, and has no significance. If their eruption occurs much later, it suggests rickets most commonly.

Remember that delayed dentition may be induced by a prolonged illness of any kind during infancy.

Of course chronic infection as well as myxedema and idiocy have an effect on the growth of the teeth.

An easy rule to remember the time of eruption of the milk teeth is as follows:

Near 6 months ..... 6 teeth.
Near 12 months .....12 teeth.
Near 16 months .....16 teeth.
Near 20 months .....20 teeth.

Do not regard difficult dentition as a very important etiologic agent in the diseases of infancy.

Remember, however, that the gums do need lancing at times. The swollen, edematous, mucous membrane may be very tender and give rise to considerable pain. It is not uncommon for a small exudation cyst to form between the tooth and the mucous membrane over it, which may even become infected and form a small abscess.

Remember that the anterior molars and not the canine teeth cause the most frequent disturbance in dentition. This is due to the fact that the surface of the molars is broad and not pointed as that of the canine tooth.

Do not expect to make an accurate estimate of the infant's age from the eruption of the teeth; this process is too irregular to be an accurate guide.

Do not regard the act of drooling as sufficient evidence that the child is teething.

Do not forget to inspect the teeth and gums at every examination when the nutrition is concerned.

Decayed teeth more often suggest that the diet of the child has been imperfect during infancy than that too much sweets have been given.

Sucking of the thumb is a frequent cause of deformities in the position of the incisor teeth and the jaws as well.

Bleeding, spongy gums immediately around newly-erupted teeth suggest scurvy. The cyanotic, spongy gums of scurvy do not occur before the eruption of teeth.

Do not forget that Hutchinson's teeth, indicating syphilis, occur in the permanent and not in the milk teeth. Notched or peg-shaped deciduous teeth do not indicate syphilis.

Acute ulceration of the mucous membrane surrounding the tooth and covered by a white exudate is usually caused by stomatitis ulcerosa.

THE ENANTHEMATA.

Do not forget to examine the mucous membrane of the mouth under a strong light, preferably daylight, whenever any eruptive disease is suspected. An eruption on a mucous membrane is called "enanthem."

As in the case of the skin, an eruption due to local causes must be carefully separated from a general infection.

Be sure to look for Koplik's spots on the mucous membrane of the cheek, especially near the gums, in every case of acute fever with coryza. This sign is pathognomonic of measles.

Remember that a punctiform eruption, scarlet in color, on the mucous membrane of the soft palate and the posterior part of the hard palate suggests scarlatina. It may, however, occur with certain non-specific infections of the fauces.

A diffuse redness of the mucous membrane of the mouth occurs in so many diseases that it has no diagnostic significance.

Remember that thrush at the beginning is composed of small, white, firmly adherent masses on an inflamed base.

Remember that herpetic stomatitis consists usually of small circular or elliptiform ulcers on various parts of the mucous membrane.

Do not overlook ulcerative stomatitis—a disease characterized by superficial erosions of the mucous membrane, covered by a thin white exudate, occurring anywhere in the mouth, but most commonly on the margin of the gums, which cause the gums to bleed very easily, all giving rise to a very fetid odor. Febrile movement usually accompanies this infection in the early stages.

Remember that the enanthem of varicella resembles the eruption on the skin, but the vesicles soon rupture, and therefore the lesions may resemble those of an ordinary herpetic eruption.

Remember that the ingestion of a bolus of hot food may cause a vesicle and subsequent ulcer in the roof of the mouth.

Two symmetrical, oblong erosions in young in-

fants, situated on the hard palate or gums, are caused by washing the mouth too vigorously, and are known as "Bednar's aphtha."

Noma may occur in the tongue as well as the cheek.

A swelling under the tongue, cystic in character, is called ranula; the sublingual fibroma occurs occasionally. Ulceration of the frenum is common in pertussis.

Do not believe that the fetid breath is always caused by a disordered stomach; in fact, this is the exceptional case. Look for some disease of the mouth, nose, and throat.

THE FAUCES.

Do not forget to examine the throat of the child in every acute febrile disease.

The best tongue depressor is the handle of a spoon.

Simple redness of the throat occurs in a great variety of infectious and digestive diseases, and has no diagnostic significance.

Remember that in all acute exudative diseases of the throat the physician must exclude diphtheria and scarlet fever—establish their presence or absence; the causative agent in other throat infections is immaterial from a practical standpoint.

Always view an exudate on the tonsil with suspicion if you are not sure that it is not diphtheria; see it again every few hours until it is certain that it is or is not diphtheria.

Remember that a bacteriological examination of the throat in cases of pseudomembranous angina is very useful to prevent mistakes in diagnosis; make a culture of every case of tonsillitis characterized by a suspicious exudate.

Do not forget that diphtheria may assume a follicular form, and be very mild; then it is almost impossible to differentiate it from the nonspecific tonsillitis.

Do not forget to examine the skin in every case of pseudomembranous angina, for the throat in scarlet fever often resembles that of diphtheria.

The lymph nodes at the angle of the jaw may be enlarged in nondiphtheritic tonsillitis; but their swelling is not so rapid, so large, nor are they as tender on pressure as in diphtheria.

Remember that the pseudomembrane in nondiphtheritic angina may be difficult to remove from the tonsil; on the other hand, a pseudomembrane in diphtheria may often be readily removed.

Do not mistake Vincent's angina for diphtheria; the former consists of a superficial ulcer covered by a thin white exudate, and is usually a part of ulcerative stomatitis.

Remember that syphilitic sore throat may resemble diphtheria; only a culture may decide the difference.

A white exudate on the uvula may be caused by diphtheria, thrush, or the fusiform bacillus (Vincent). In the latter affectious other evidences of the diseases will be found in the mouth.

Remember that diphtheritic infection of the nasopharynx or nose may reveal itself first by multiple small white spots on the posterior and lateral walls of the oropharynx.

The infant has trouble in sucking when its nostrils are stopped up, as well as when a sore mouth or sore throat exists.

Do not mistake a faucial obstruction from a postpharyngeal abscess for a laryngeal stenosis.

The exudate on the throat in scarlet fever very much resembles that of diphtheria; a bacteriological examination is necessary to distinguish one from the other.

VOMITING.

Occasional vomiting in an infant has no diagnostic significance; severe vomiting beginning suddenly in an otherwise healthy child suggests acute indigestion or acute gastritis, but it must not be forgotten that almost any infectious disease may begin with vomiting; therefore, take the rectal temperature, and, if high fever is present, study the case from the standpoint of the fever.

Be sure to palpate the abdomen carefully in all cases of vomiting, especially when accompanied by crying or other signs of pain; appendicitis, intussusception, and other intestinal obstructions begin in this way.

Do not forget that uncontrollable vomiting occurring in an infant soon after birth and persisting for

days, with no other signs of illness, indicates the presence of pyloric stenosis.

Severe vomiting, lasting for one or more days, and recurring at intervals of several weeks without obvious cause, is the principal symptom of cyclic vomiting. Examine the urine for acetone.

Remember that vomiting is sometimes the first sign of failure of the heart, as in diphtheria, pneumonia, or valvular disease.

Do not be confident that you can distinguish cerebral vomiting from that form due to gastro-enteric disturbances; the distinguishing characters are clearly laid down in text-books, but in actual practice these characters are seldom sufficiently marked to be of diagnostic value.

Nevertheless, apparently causeless vomiting occurring in a child, with a persistent irregular febrile movement and attacks of severe headache, suggests tuberculous meningitis. Especially is this true if the child has previously been intimately associated with phthisical persons.

The vomiting of bile has no special clinical significance; it may occur in any severe vomiting, whatever the cause.

Primary acute tuberculous or **pneumococcic** peritonitis may be ushered in by severe vomiting paroxysms.

Do not forget that repeated vomiting attacks may be the first symptom of pneumonia; it is a very regular symptom at the onset of scarlet fever.

Do not regard every severe case of vomiting as clear evidence of gastritis; exclude other diseases.

Vomiting of blood in the newly-born is a sign of hemorrhagic disease; but be sure that the blood does not come from the nose or throat.

In case of vomiting of the newly-born examine carefully the mamilla of the mother; sometimes the baby nurses blood instead of milk and throws it up afterward.

Vomiting of blood may occur in measles, hemophilia, purpura, and cirrhosis of the liver.

Altered blood may be found in the vomitus in many cases of acute gastritis.

Ulcer of the stomach is rare in children.

THE STOOLS.

The stools of a healthy breast-fed infant are golden-yellow in color and soft in consistency; those of the infant artificially-fed are lighter in color and firmer in consistency.

Minute white particles in the stools of breast-fed infants have no special diagnostic significance.

Some healthy, thriving infants may have greenish-yellow stools at times.

Do not attach too much diagnostic importance to green stools; occasionally they may occur in a healthy child without any apparent cause. The general rule that green stools signify an intestinal indigestion has a clinical value. Persistent grass-green stools occur in follicular enteritis.

The green stool, as a rule, indicates that there is an increase in the oxidation going on in the intestines, usually from the presence of an oxydase, which is poured out with the intestinal secretions under the stimulus of an irritant.

The green stool is produced by the change of bilirubin to biliverdin.

Remember that green stools may occur even in a hungry baby.

Do not believe that, because the administration of calomel, corrosive sublimate, magnesia, or rhubarb changes the green stools to the yellow variety, an ileocolitis is thereby improved; in fact, some of the severest tenesmus and bloody, mucous stools may occur with these yellow stools. It is very questionable whether by the administration of drugs and the prevention of the change of bilirubin into biliverdin the course of the disease is always favorably influenced.

In follicular enteritis the stools are usually green and contain much clear mucus; not mucopus, as in ulcerative colitis (dysentery).

The light-colored stool, as a rule, indicates that the bilirubin is changed to the colorless hydrobilirubin by reduction. This change is brought about by bacteria; hence the light-colored stool indicates excessive intestinal putrefaction.

Light-colored stools occur also from obstruction of the common bile duct. Catarrhal jaundice is very rare in infants. Congenital atresia of the common bile duct may occur and produce milk-white stools.

Hard, light-colored stools are among the earliest manifestations of acute indigestion in infants.

The white masses in the stools, commonly called curds, do not consist of casein, as is commonly supposed; most generally they are composed of fatty salts (soaps).

True casein coagula occasionally are found in the shape of hard, round masses, having the shape and appearance of a bean. These indicate that the milk has traversed the alimentary canal very rapidly.

Mucus in the stool does not signify that the child is suffering from a "cold." The presence of mucus indicates that some irritant or disease is present in the colon.

Remember that a considerable quantity of mucus and coagula may be found in any stool after the administration of a cathartic.

In ileocolitis the stools are frequent, containing blood and mucopus; otherwise the color may be almost normal.

Do not forget that bloody, mucous stools occur in quite a different affection—namely, intussusception. The stool in this latter condition may consist entirely of blood; as a rule, in the former disease the blood is much less in quantity. The stools in dysentery are frequent, and always contain some fecal matter; in intussusception the fecal masses soon cease. Severe pain may exist at the onset of either disease. Palpate the abdomen for a sausage-shaped tumor.

Do not feel alarmed when a very hard fecal mass is stained with a little blood; treat the constipation. It is a frequent occurrence for hard straining to injure the mucous membrane.

Recognize the black, tarry stools due to the administration of bismuth, and the black stools in hemorrhagic disease of the newly-born.

DIARRHEA.

Remember that diarrhea in infants may be a symptom of any acute or chronic disease, and therefore do not conclude from the presence of frequent movements that the whole cause of a severe fever or other general symptom is caused by a gastroenteric infection. Examine every patient carefully.

Remember that a persistent diarrhea may be produced by overfeeding or feeding a food too rich in sugar or maltose.

In all diarrheas it is necessary to determine whether the infection is limited to the contents of the bowel only (gastroenteric infection), or whether the infection has involved the intestinal lining (ileocolitis). A good purgative and starvation causes immediate improvement in the former condition, while in the latter no such prompt improvement ensues. The former disease yields rapidly; the latter almost always is protracted.

Diarrhea with no general symptoms (fever, prostration) and little or no alteration in appearance of the stools is found in many breast-fed infants, es-

pecially during the first week after birth. The stools may be very yellow and acid in reaction, and so irritating that the buttocks become reddened or even blistered.

Diarrhea is almost a constant symptom in all acute and chronic indigestions of infants; especially is it severe in cholera infantum, with its characteristic rice-water discharges.

Remember that diarrhea in the typhoid fever of children indicates that too much or unsuitable food has been given.

Frequent watery passages are symptomatic of many severe forms of infectious diseases. In measles diarrhea is a common symptom.

Tenesmus is a characteristic symptom of dysentery; it also occurs in intussusception. Sometimes infants strain very much from a catarrhal proctitis from constipation or injury due to the careless use of enemata. A colitis with tenesmus may occur also in the newly-born breast-fed infant.

Always examine the rectum when the infant has tenesmus and passes blood; it may be caused by a rectal polypus or hemorrhoid.

Do not worry over a prolapse of the bowel which may occur from any irritation of the rectum. In the vast majority of cases it gets well.

Do not hesitate to explore the rectum by digital examination in suspected hemorrhoids, polypi, intussusception, appendicitis, or intestinal obstruction.

DISTENDED ABDOMEN.

Do not forget that gaseous distention of the abdomen is a serious complication of diseases of pleura and lungs; this is usually the result of overfeeding.

Habitual distention in a moderate degree is common in all nutritive disorders, such as marasmus, rickets, and intestinal indigestion.

Acute abdominal distention from acute indigestion may at times be very serious and be caused entirely by an indiscretion in diet.

In persistent enlargement of the abdomen with physical signs of gaseous distention, uninfluenced by careful dieting and intestinal irrigation, the diagnosis of idiopathic dilatation of the colon must be considered.

Remember that it is generally dilatation of the intestines and not of the stomach which causes epigastric bulging.

A distended abdomen, tender to pressure, occurs in all forms of peritonitis.

Tympanites in typhoid fever is less frequent in children than in the adult.

Do not overlook a distended bladder as a cause of abdominal distention.

Do not mistake an enlargement from ascites for tympanites. The former condition shows dullness on percussion at the sides, and a tympanitic note in the middle line when the child is recumbent. Ascites occurs most commonly in tuberculous peri-

tonitis; it may be a symptom of any tumor of the abdominal cavity. It is part of the syndrome of cirrhosis of the liver. In general anasarca from cardiac or renal disease this condition may be marked.

Do not mistake an enlarged spleen in splenomegaly, leukemia, malaria, or splenic anemia for an abdominal sarcoma. Remember that an enlarged spleen in malaria and typhoid, when present, is a valuable corroborative sign, but its absence does not exclude these diseases.

Great enlargement of the abdomen may be caused by sarcoma of the kindey, hypernephroma, or tuberculosis of the mesenteric lymphatic nodes.

ABDOMINAL PAIN.

An acute paroxysmal abdominal pain is common in infancy from flatulent colic. It occurs especially in breast-fed infants and may be apparently very severe. Prostration, however, rarely follows the attack.

Do not mistake signs of abdominal pain for some abdominal disease when the trouble is in the chest. Rigidity of the abdominal muscles and tenderness in the right or left iliac region may be caused by pleuropneumonia.

Do not forget that children with sore throat or even inflammation of the middle ear may complain of pain in the stomach.

Severe abdominal pain, nonfebrile, not associated

with symptoms of indigestion, suggests intussusception. If fever is present, look for appendicitis; the abdominal muscles are rigid, especially on the right side.

In ileocolitis severe pain may precede the intestinal evacuations; the pain is relieved after the passage.

Do not exclude the presence of appendicitis because the pain is referred to the umbilical region. Palpate carefully; find the point of greatest tenderness.

Flatulent colic, characterized by a paroxysmal pain, is common in older children as well as in infants.

Pain from worms is not so frequent as is commonly supposed. Do not mistake a mucomembranous enteritis for worms.

Occasionally, referred abdominal pains may be found in balanitis with adherent foreskin.

The most common abdominal pain is caused by acute gastric or intestinal indigestion, but do not make this diagnosis unless the presence of more serious affections has been excluded.

Remember that Henoch's purpura is a puzzling source of abdominal paroxysmal pains.

Abdominal pain may be the earliest symptom of Pott's disease; examine the spine in all recurrent abdominal pains.

Pain from gallstones or renal calculi rarely occurs in children.

ABDOMINAL SWELLING.

Remember that abdominal tumors may be suddenly produced and nonfebrile, as intussusception; febrile, as in appendicitis.

Abscesses in childhood may be subphrenic, appendiceal or prevertebral. Psoas abscess is most commonly caused by caries of the lumbar vertebræ.

Sarcoma of the kidney occurs mostly in young children; it may easily be mistaken for hydronephrosis, a fluctuating tumor.

Multiple tumors, varying in size from a hazelnut to an egg, are usually tuberculous mesenteric lymph nodes.

Do not mistake an overfilled bladder for an abdominal tumor.

An enlarged liver may occur in any intoxication or infection; it is often marked in malaria.

The amyloid liver following chronic suppuration, tuberculosis, and syphilis is very slow-growing, often very large, and not, as a rule, accompanied by ascites. Abscess of the liver, besides enlargement and tenderness, shows some febrile movement.

Remember that it may be exceedingly difficult to differentiate a subphrenic abscess from abscess of the liver.

Perinephritic abscess is often overlooked; palpate the kidneys in obscure fevers.

Cirrhosis of the liver is rare in children, but even alcoholic cirrhosis may occur. The interstitial

hepatitis or gummatous enlargement due to syphilis should not be forgotten.

Do not forget that enlargement of the kidneys may occur in malaria and sometimes in other infections which may simulate beginning sarcoma.

The liver and **spleen** are enlarged in splenomegaly, splenic anemia, and leukemia.

Do not forget that, while the spleen may be enlarged in the acute infections, it is not usually readily palpable except in malaria and typhoid.

In Banti's disease the spleen may become very large, and, as the cause is unknown, it is called primary splenomegaly to differentiate it from the secondary splenomegaly, which is the result of an acute or chronic infectious disease.

Remember that a movable kidney may occur in children.

Rarer swellings to bear in mind are the tumor of an hypertrophied pylorus and cysts of the ovaries.

Hydatid cysts of the liver may produce a very large fluctuating tumor; do not mistake this condition for hydronephrosis. Palpate carefully the site and origin of these swellings.

Have clearly in mind the swellings in the abdominal wall—umbilical hernia, inguinal hernia, undescended testicle, abscess of the abdominal wall.

THE NOSE AND NASOPHARYNX.

Nasal obstruction is most commonly caused by acute rhinitis. Remember that it may also be caused by acute adenoiditis.

Chronic nasal obstruction, which on ocular examination of the meatus is not produced by swelling of the turbinated bodies, may be safely referred to adenoid vegetations. Palpate the nasopharyngeal space.

Do not forget that a unilateral hemorrhagic discharge signifies either a foreign body in the nose or nasal diphtheria. Examine the meatus carefully with nasal speculum and head mirror.

Persistent repeated hemorrhage with obstruction of the nasal passages should suggest the possibility of diphtheria.

Do not forget that nasal diphtheria most often assumes a slow chronic course quite different from the diphtheria of the fauces. Look for a gray pseudomembrane on the nasal mucous membrane.

A persistent purulent discharge from the nose may occur in fibrinous rhinitis or syphilis.

Remember that in the so-called scrofulous children a fibrinous rhinitis due to the streptococcus may persist for many weeks. Inflammation of the lachrymal duct and conjunctiva may complicate the disease.

Always recall that a persistent rhinitis with snuffles, usually characterized by a bloody discharge, is almost diagnostic of hereditary syphilis in the newly-born infant.

Remember that a coryza may be the only local symptom of a severe influenzal attack. Coryza is common at the onset of pertussis.

Polypi occasionally occur in children; examine the nasal fossæ in obstruction of the nose.

In the young infant a discharge from the nose may be a symptom of congenital syphilis, but do not mistake an obstruction due to adenoids for syphilitic snuffles.

THE LARYNX.

Recognize that hoarse, brassy, or barking paroxysmal cough which is diagnostic of laryngeal inflammation or irritation.

The laryngeal cough following a slight, simple angina or rhinitis is not serious. Sudden attacks of difficult breathing with laryngeal cough is characteristic of spasmodic croup.

Be sure to recognize the laryngeal stridor, a peculiar hoarse tone, which indicates a stenosis of the larynx. It occurs also in the paroxysms of spasmodic croup, but not heard in the interval. The symptom is marked in edema of the larynx, but is most common in childhood in membranous laryngitis.

It is a safe rule to diagnosticate a persistent stenosis of the larynx, accompanied by the laryngeal stridor and retraction of the suprasternal fossa and the costoabdominal junction, coming on acutely, as diphtheritic laryngitis, and instituting treatment accordingly. It should be remembered, however, that a certain number of pseudomembranous inflammations of the larynx are due to other micro-organisms. Always examine the throat for diphtheritic patches.

Remember that laryngospasm coming on in repeated attacks, with no symptom of "cold in the head," is most commonly symptomatic of tetany.

It is well to remember that a severe laryngeal stenosis, often requiring intubation, sometimes follows measles.

Do not mistake a stenosis of the nasal meatus for a laryngeal stenosis. In young infants an occlusion of the nose may cause alarming symptoms of dyspnea.

Do not mistake the dyspnea of bronchitis, bronchopneumonia, or asthma for laryngeal stenosis; there is no laryngeal stridor in these cases.

A post-pharyngeal abscess may cause respiratory difficulty and simulate croup.

Multiple papillomata of the larynx is a rare condition, which may cause intractable stenosis of the larynx.

Enormously enlarged tonsils sometimes project over the opening of the larynx so as to cause respiratory difficulty. A retropharyngeal or peritonsillar abscess may act in the same way.

A laryngeal stridor may occur in varicella from the presence of an eruptive lesion in the larynx.

Do not forget that foreign bodies are sometimes a cause of laryngeal stenosis.

Paralysis of the vocal cords gives a laryngeal stridor; injuries to the larynx may cause stenosis from cicatricial or granulation tissue.

Syphilis of the larynx may simulate diphtheritic

laryngitis. Look for other signs of the former disease.

The terrible laryngeal stenosis following edema of the glottis in children predisposed to angioneurotic edema should be recalled in obscure and often fatal apnea.

A congenital stridor may be caused by an enlarged thymus, deformity of the larynx, or most commonly by a disturbance in the co-ordination of the laryngeal muscles.

Aphonia is produced by any inflammation of the larynx, syphilis, edema, tumors. Remember that severe hoarseness may occur from dryness of the vocal cords in cholera infantum and ileocolitis.

Laryngospasm is a characteristic symptom during the coughing attacks of pertussis; it may be so severe as to cause fatal apnea or convulsions.

Laryngeal symptoms may be a part of the syndrome of urticaria or **serum disease.**

Aphonia is generally much more marked in diphtheritic stenosis of the larynx than in severe catarrhal laryngitis.

ANOMALIES OF BREATHING—COUGH.

Do not forget that in young infants with soft bones the chondro-abdominal margin may be retracted normally during respiration. Severe grades indicate dyspnea.

Dyspnea in general indicates some obstruction to the entrance of air into the respiratory passages.

Its severest forms are observed in laryngeal stenosis and asthma. In pleurisy with effusion the breathing may be unilateral. In pneumonia, bronchopneumonia and bronchiolitis dyspnea is often a noticeable symptom.

Remember that rapid respiration does not necessarily indicate disease of the lungs. It is found in inflammations of the abdominal organs, and also in cases of cardiac weakness in any infectious disease.

Remember that bronchial asthma is usually an expiratory dyspnea; in stenosis of the larynx the dyspnea is inspiratory. In young infants occluded nares cause an expiratory dyspnea.

Irregular respiration is common in all the severe infectious diseases. A typical Cheyne-Stokes respiration is not pathognomonic of tuberculous meningitis; it may occur in the hydrocephaloid of gastroenteric diseases; it is common in leptomeningitis; it may even occur in the meningismus of an acute infectious disease. Irregular respiration in very young infants may be normal; in premature infants it often indicates respiratory exhaustion.

Remember that the pulse-respiration ratio is four to one in children of all ages and at all temperatures, except in infants with any amount of fever and in children from two to nine years of age with hyperpyrexia, in whom the rate becomes three to one, or five to one. (Solis-Cohen.)

If this ratio is disturbed very much, look for

causes which interfere with respiration—that is, lung, heart, and abdominal disease.

Deep breathing associated with acute swelling of the liver arises during the course of many acute diseases; it is a grave symptom, and indicates dilatation of the right ventricle. This syndrome may occur in cardiac disease, croup, gastritis, pneumonia, and cyclic vomiting.

Remember that the sour breath in children, while indicating an acetonemia, may occur in any acute indigestion or infectious disease, and does not signify diabetes mellitus.

Be careful to recognize the difference in certain varieties of coughs; the laryngeal cough is hoarse and barking, the tracheal or bronchial cough has a loud, ringing, clear tone. The former occurs in the disease of the larynx, the latter in the tracheobronchial affections.

A cough is very common in typhoid fever; it is a constant symptom of measles and influenza. A cough should also be recognized as almost a constant symptom of ileocolitis.

Be sure to think of pertussis in every sharp paroxysmal cough lasting more than five days without showing improvement from treatment. The cough of pertussis is characterized by a rapid succession of explosive coughs, followed by a laryngeal stridor on inspiration. The "whoop" may, however, be absent.

Remember that during epidemics of influenza

cases of severe spasmodic coughing may occur which resemble pertussis, and are therefore called pertussoid. In the bronchitis of rachitic children laryngospasm may accompany the attacks of coughing which may resemble somewhat the whoop of pertussis.

A persistent nasal cough may be the result of adenoids or pharyngitis granulosa.

A persistent cough, with no physical signs and no evidence of bronchial tuberculosis, may mean bronchiectasis.

Enlarged bronchial glands may cause a persistent spasmodic cough. Percuss carefully over the manubrium and between the shoulder blades for dullness. A rhonchus is often heard all over the chest. The Röntgen ray may have to be used to clear up the diagnosis.

Young children never expectorate, but swallow the sputum. It is necessary at times to examine the sputum. To obtain this, after an interval has elapsed from the last coughing attack, the tongue should be depressed and the larynx tickled with some cotton or gauze on an applicator, and as the coughing expels some sputum it should be caught on the cotton.

THE LUNGS.

Become expert in the physical examination of the chest in infants and children by constant practice. The changes elicited in this way have a most important clinical significance.

Examine the chest in every case of acute fever, especially if the fever has existed for more than three days.

Do not forget to examine the chest by physical exploration every day in every continued fever of whatever source.

Croupous pneumonia is not uncommon, even in infancy. Its most common signs are bronchial breathing and bronchophony. Dullness on percussion is always to be sought.

Do not mistake dullness on the right side due to the liver for an area of consolidation. In abdominal distention the liver may be pushed almost up to the axillary space.

It is well to remember that a tympanitic note may be elicited over a beginning consolidation. Listen for the crepitant rale in such cases.

Pneumonic consolidation of a part of a lobe in children may sometimes cause very little general disturbance. Again, coughing may be almost entirely absent in children who have well-marked physical signs of pneumonia.

Do not hesitate to make a diagnosis of pneumonia in the absence of physical signs when the temperature remains high for several days, a suppressed cough is present, and respiration is rather rapid, provided you have excluded other causes of the fever.

Remember that the pneumococcus is the most common cause of primary bronchopneumonia as well as croupous pneumonia.

Physical signs of diseased bronchial tubes, with severe persistent general symptoms, indicate some involvement of the lobules, though physical signs of pneumonia may be absent. A leucocytosis corroborates the diagnosis.

Do not overlook a serous or purulent effusion into the pleural cavity. As a rule, suppurative pleuritis commences with the picture of pneumonia, but there is unusually severe pain in the side. The diagnosis should be made by the attending physician early. Percuss and auscultate the chest daily. Notice the increase in dullness and the gradually disappearing breath sounds.

Remember that the presence of bronchial breathing over a lung does not exclude an empyema; yet when there is a large collection of pus the respiratory murmur is absent. Do not depend on a change of note on changing the position of the child. The use of the aspirating needle is the only sure means of differentiating a purulent from a serous effusion.

It should be remembered, however, that the acute symptoms in the case of a serous effusion are not protracted, and that absorption usually commences within ten days. In the case of a purulent effusion, absorption, as evinced by the diminution of the flat sound on percussion, is not appreciable; hence, when an effusion has existed for ten days or more, it is almost sure to be purulent.

A fibrinous pleurisy may give the physical signs of fluid in the pleural cavity, but in a few days the

extreme dullness becomes more normal—there is evidence of absorption.

Do not mistake an empyema for typhoid fever, or malaria, or even tuberculosis. On the other hand, a diffuse tubercular infiltration of the lung may give the physical signs of a pleural effusion. Do not mistake a subphrenic abscess for an empyema. The differentiation is sometimes extremely difficult. An abscess of the liver may simulate an empyema. Careful aspiration should reveal whether the pus is in the pleural cavity or not. An interlobular abscess, when extremely small, is very hard to diagnose; repeated punctures with the aspirating needle may be necessary.

It is a singular fact that tuberculous consolidations often remain stationary, or even improve in children. A dull apex or base of the lung, with the history of tuberculous infection, is by no means serious during childhood.

Listen to the breathing of normal children repeatedly; become familiar with the various differences in puerile breathing; do not mistake it for bronchial breathing.

Occasionally, a bronchial breathing may have an amphoric quality. Cracked-pot sounds may be heard over normal chests; hence the diagnosis of vomica in children is always uncertain.

Sputum examination must always be utilized to make a diagnosis of pulmonary tuberculosis, yet in tuberculosis of the bronchial glands no bacilli may be found in the bronchial secretions.

The diagnosis of enlarged or tuberculous bronchial glands is extremely unsatisfactory; when very large, they may give dullness on percussion over the manubrium or in the interscapular space.

Do not forget that even apical pneumonia may give abdominal symptoms.

The Pirquet test for tuberculosis is very valuable in infants and children for excluding the presence of that disease.

Chronic interstitial pneumonia is often mistaken for phthisis or empyema.

Most puzzling are symptoms caused by pulmonary abscess; if the pus collection is small, it can not be discovered on physical examination.

Miliary tuberculosis of the lung gives no physical signs; tuberculous foci must be pretty large before they can be recognized.

As post-mortem examinations show, only the large pulmonic inflammations and infiltrations are appreciated on physical examination.

Do not mistake an enlarged heart or pericardial effusion for pulmonary infiltration; the former diseases give dullness on percussion in the left subscapular region.

THE HEART AND CIRCULATION.

The rapidity of the pulse has little significance in infancy. A pulse rate of two hundred or more, when protracted, signifies failing of the force of the heart; but in all cases it is the quality of the pulse which should be estimated.

A soft, easily compressible pulse, with some beats almost imperceptible, in any septic disease is ominous. Irregularity of the rhythm is less serious than irregularity in the fullness of the pulse.

Persistent cold extremities often indicate failure of the cardiac force. Cold extremities may, however, be the inaugurating symptom of a rise in temperature; cold hands are common in the newly-born and premature infants when they are kept in a cool room.

Listen to the first sound of the heart when in doubt as to the force of the heart. An accentuated second sound is common in healthy children.

Remember that the apex is outside of the nipple line in infants.

Do not forget that it is the wall of the right ventricle which produces the visible impulse on the chest. It is common for two or more intercostal spaces to show a pulsation. The position of the apex must be determined by percussion.

Become familiar with auscultatory percussion; by this means the surface topography of the heart, spleen, and liver may be easily outlined.

Mapping out the size of the heart is serviceable, not only to estimate the amount of hypertrophy in valvular disease, but also to estimate cardiac embarrassment in dilatation.

The size of the heart may be well outlined in children by the friction method. Place the chest piece of the stethoscope over the heart, and with

the rubber end of a lead pencil rub the chest wall approaching the stethoscope; as soon as the border of the heart is reached an intensification of the friction sound of the rubber will be heard.

Do not mistake a pericardial friction rub for an endocardial murmur. The former is usually double and sounds very close to the ear.

Remember that functional murmurs are by no means rare in children; but do not pronounce any murmur functional until the examination has been repeated several times.

Some children develop murmurs after strenuous exercise, some after every acute fever, others have congenital murmurs—all of which may have no prognostic significance; but always view murmurs with suspicion until by the subsequent course of the trouble their functional nature is established.

Remember that many murmurs, undoubtedly due to endocarditis, may gradually disappear with no evidence of cardiac disease. Others, which at the beginning may seem of little importance, become the symptoms of severe cardiac embarrassment.

Do not forget that a severe valvular lesion may exist without any definite murmur.

Remember that the presystolic murmur is a rough, harsh rumble, while the systolic murmur is soft and blowing.

A presystolic murmur may be heard, the same as a systolic murmur, at the side or even in the back.

In mitral regurgitation it is the right ventricle

which shows a greater relative hypertrophy; in mitral stenosis the left auricle is sometimes so much enlarged as to cause an appreciable increase in the width of the base of the heart.

Dullness on percussion in Traube's semilunar space indicates fluid in the left pleural cavity.

Do not overlook an effusion into the pericardium. The muffled heart sounds and an increase in relative dullness should recall this disease.

Do not fail to recognize the symptoms of hemorrhagic infarction from embolism in cardiac disease.

Do not diagnose heart disease without taking into consideration all the vascular phenomena and the history of the illness.

It is a clinical fact that the peripheral circulation becomes very much impaired in many infectious diseases long before the heart shows any signs of weakness on auscultation.

Bradycardia occurs in children as a result of some forms of intestinal intoxication. The pulse may register only fifty to the minute and this condition may continue for several weeks. It is generally not serious.

Remember that bradycardia after diphtheria is very dangerous. Bradycardia very commonly occurs after measles, and may be extreme. It is not uncommon in the functional neuroses, such as chorea.

Tachycardia is symptomatic of all high fevers; occurring independently of fever, it should suggest Graves' disease.

Remember that the physical sign of dilatation and hypertrophy of the heart are the same; but there is a marked difference in the strength of the heart and the volume of the pulse.

Remember that most septic diseases show a polymorphonuclear leucocytosis, except malaria, typhoid, measles, smallpox, vaccinia, and the serum disease. A relative increase occurs in ileocolitis and other severe infections of the gastroenteric tract. In leukemia there is a tremendous increase usually.

A lymphocytosis is characteristic of whooping-cough, although it also occurs in some forms of tuberculosis. A relative increase of the lymphocytes is normal in infancy.

All chronic diseases result in more or less diminution of the red corpuscles and the hemoglobin. It is often extreme in infantile scurvy. After repeated hemorrhages (as in some forms of ulcerative colitis) the anemia may be marked. It is greater in syphilis than in tuberculosis. Watch for the hookworm disease. Do not make a diagnosis of pernicious anemia until you have excluded uncinariasis. Simple anemia due to bad surroundings may be very severe. In premature infants the hemoglobin is usually very low for many months, or even years. In splenic anemia and leukemia the grade may be severe. In chlorosis there is not much diminution of the red corpuscles, but marked reduction in the hemoglobin.

Always examine the stools for ova of intestinal parasites in all cases in which the blood shows a marked increase of the eosinophilous cells.

The presence of many eosinophiles in the blood and symptoms caused by bronchial irritation is presumptive evidence of asthma.

Remember that a relative polymorphonuclear leucocytosis occurs in enteritis; this sign may be utilized to distinguish an intestinal infection from a simple indigestion.

Blood examination should not be neglected in any fever or cachexia.

Malaria produces such irregular manifestations in infants that the clinical diagnosis must be based principally upon finding the plasmodia in the blood.

Do not exclude typhoid fever because the leucocytes number more than twelve thousand.

The presence of numerous pigment granules in the leucocytes is strong evidence of malarial infection; but do not make the diagnosis on this evidence alone.

It is well to remember that miliary tuberculosis and tuberculous meningitis may produce a moderate leucocytosis.

THE URINE.

Do not forget to inquire carefully as to the quantity of urine passed in every acute disease. If the child is in distress, examine for retention of the urine.

A lessened secretion of urine occurs in all febrile diseases. Complete anuria for many hours occurs in diseases associated with vomiting or diarrhea. It

may be a very prominent symptom in pyloric stenosis, and the first sign that the food is passing the pylorus is an increase in the quantity of the urine.

Anuria is also a symptom of cardiac weakness, but after an acute disease, especially scarlet fever and diphtheria, it should suggest parenchymatous nephritis.

An increase in the flow of the urine is very common in children. Often it suggests a neurosis, and stands etiologically connected with enuresis; here it is the result of polydipsia.

In diabetes insipidus and mellitus an increase in the flow of the urine is a characteristic symptom.

Polyuria is a prominent symptom of certain diseases of the nervous system, as encephalitis and tumor. Of course, it often occurs at the onset of sudden cool weather, after resorption of exudates, and after certain foods or drinks.

Do not believe that every albuminuria indicates the existence of a nephritis. The albumin may come from the kidney and signify a renal irritation only.

Renal irritation is common during the course of many severe infectious diseases. Its diagnosis from nephritis is not always easy. The greater number of casts in the latter condition has some value, but the most reliable signs are disturbances of renal function, as anuria, polyuria, edema, breathlessness, restlessness, and circulatory disturbance.

In any given fever the diagnosis of which is not clear, the urine should be examined, especially in

girls; a cystitis or pyelocystitis gives rise to fever and albuminuria. The urine is cloudy, and on microscopic examination pus cells and epithelial cells are found.

The diagnosis of chronic interstitial nephritis is attended with great difficulty. In the absence of hypertrophy of the heart and a hard, wiry pulse, this diagnosis is practically impossible in children.

Hyaline casts are found in every case of renal irritation, and have little clinical bearing. Do not expect to diagnosticate an amyloid kidney by the presence of waxy casts. They may not be present, and, even if some are found, it may not be an amyloid kidney.

Remember that the specific gravity of the urine in infancy is very low normally, and, if greatly diluted artificial foods are given, it may approach that of water; hence the specific gravity of the urine of infancy has no clinical value.

Do not mistake a pyelitis for a nephritis. In the latter disease the albumin is large in percentage, numerous red and white corpuscles may be present, and casts are abundant; in the former disease the albumin is small in amount, casts are very scanty, and pus cells are abundant.

An acute hematuria coming on after an acute angina or otitis should suggest influenzal hemorrhagic nephritis.

Periodical hematuria should suggest tumor of the kidney.

Hematuria is often a symptom of hemophilia, purpura hemorrhagica, and pernicious anemia; rarely it is observed during severe septic diseases.

Do not mistake the brick dust sediment of concentrated urine in infancy for blood.

Hematuria may be the only marked symptom of scurvy. Examine the gums and inquire into the history of feeding in every case of hematuria of infancy.

Malarial hematuria is rare in children.

Do not mistake a precocious menstruation for hematuria. Mothers are often very anxious concerning dark concentrated febrile urine, and suggest that the baby passes blood.

Difficult urination in young infants is most commonly caused by concentrated urine and lithiasis. It should be remembered that a diverticulum or atresia of the urethra causes severe dysuria. Phimosis and paraphimosis occur in older children. A very peculiar form of dysuria is often symptomatic of proctitis and chronic colitis.

It is difficult to account for severe dysuria in some neurotic children. Just before urinating they have an attack of frenzy; this may or may not be accompanied by priapism.

Do not forget that thread worms in the rectum may give symptoms of dysuria.

Do not forget that enuresis is most commonly produced by an insufficient cerebral control of the urinary apparatus. The best treatment for this

condition is not drugs, but proper training. It is impossible, when no anatomical defect can be made out, to determine if a hyperexcitability of the mucous membrane, a weak sphincter, or neuropathic condition is the cause of the "bed wetting."

ERUPTIONS.

Always distinguish between febrile and afebrile eruptions. The former belong to the category of exanthemata, the latter to the skin diseases proper. A distinction should also be made between the acute and chronic eruptions.

If the child has had fever immediately before or during the efflorescence, inquire as to the history of the fever. A more or less febrile disturbance lasting two to five days occurs in smallpox, measles, and rötheln. In the first disease the fever abruptly drops with the appearance of the eruption. In rötheln also the fever is usually less on the appearance of the macular rash.

If the eruption consists of hard, shot-like papules, occurring especially on the forehead and wrists, and preceded by high fever, vomiting, with headache and backache, a tentative diagnosis of smallpox must be made.

Do not forget that rötheln begins with fever, and a glandular enlargement before the appearance of the eruption. It is well to bear in mind that the color of the eruption in rubella, or German measles, is not so dusky as measles; hence, when the

erythematous patches are confluent, it may very much resemble scarlet fever.

The differentiation is made by the fact that in rötheln the typical macular or maculopapular eruption may be discovered somewhere on the body by the shorter prodromal stage and the slight catarrhal involvement of the upper air passages.

Always look for Koplik's spots on the mucous membrane of the mouth; a diagnosis of measles may be made two or three days before the efflorescence.

Remember that there are quite a variety of eruptions following the indigestion of food, the administration of drugs, and even mild anginas, which more or less resemble the rashes of measles, rubella, or scarlet fever, but which lack the contagious element.

Sometimes the diagnosis of scarlatina from dermatitis offers great difficulties; usually the absence of sore throat is sufficient to exclude scarlet fever. The strawberry tongue, when marked, is diagnostic of scarlet fever, but even in serum diseases the tongue may have an appearance somewhat like that of scarlet fever.

In cases of doubt it is safer to isolate the patient than run the risk of allowing scarlet fever to spread.

Sometimes chickenpox resembles smallpox. The eruption may appear on the palms of the hands and soles of the feet, or even on the conjunctivæ. It may present distinctly umbilicated lesions. The diagnostic points are that lesions are superficial and vary

in size from minute papules to large vesicles; the lesions present are in all stages of evolution; there is no history of a marked prodromal fever, and the eruption had appeared in distinct crops; finally the fever rose with each appearance of the successive crops.

Lamellar desquamation may occur after typhoid as well as scarlet fever; hence do not conclude that the child, if desquamating, has had scarlet fever without inquiry into the character of the preceding illness.

The serum disease is a fruitful source of puzzling eruptions.

An acute fever with erythematous patches which, with faded areas in the center, spread along the margin, producing a variety of circular, elliptical, or serpentine lesions, is characteristic of erythema multiform.

Consider erysipelas as a local spreading dermatitis, with swollen skin and general symptoms of fever and prostration.

Remember that there are two or three varieties of infectious eruptions (fourth and fifth disease), hard to recognize outside of an epidemic, which more or less resemble rubella.

Febrile disturbance sometimes accompanies urticaria.

The so-called papular urticaria occurs in children during the summer, and is characterized by the successive eruption of papules, which itch intensely.

Do not mistake scabies for urticaria or eczema. The distinctive feature of scabies is its contagiousness. In any papular or pustular eruption, characterized by itching, think of scabies. Look for the disease in other members of the family.

The eczema of children is characterized by its persistent, yet changing, inflammatory character. There may or may not be weeping. It most commonly occurs on the face and wrists. Itching is almost a constant symptom.

Remember that a diffuse redness of the skin occurs in many fevers; it is not punctiform, as in scarlet fever.

Erythema neonatorum is due to the irritation from soaps, water, and clothing. The simple redness of the newly-born is physiologic.

Erythemata are common in children, and it is not possible to find the causative agent in all cases.

Remember that the annular and sinuous forms of eruptions associated with fever and prostration belong to erythema multiform.

It is well to bear in mind that any kind of eruption appearing suddenly and disappearing suddenly in a short time probably belongs to urticaria, the most typical lesion of which is the wheal.

It is well to remember that papular urticaria (lichen urticatus, strophulus infantum) has probably a similar origin as urticaria. Wheals, papules, and vesicles often coexist. This disease may be mistaken for scabies, but the lesions are fugacious and disseminated.

Remember that herpes of the lip or face occurs in malaria, but is often found in pneumonia and pneumococcus infections of the throat; in fact, it may occur in any acute infectious disease.

Do not forget that a papular and vesicular eruption may occur in septic infections of children after injuries or septic diseases.

Impetigo contagiosa occurs as a bulla or bleb at first; these burst and a yellowish crust forms. The serum which exudes, rubbed into the skin elsewhere, causes similar lesions. Ecthyma is probably only a persistent impetigo on the legs.

Be quick to recognize ringworm of the scalp before other children are affected.

Remember that purpura is most commonly limited to the lower half of the body, and consists of red or reddish-brown spots, which do not disappear on pressure; that is, hemorrhages have occurred in the skin.

Pityriasis rosea, characterized by salmon-colored, scaly, dry disks or rings, inclosing a fawn-colored area, is a mild affection that may be easily mistaken for syphilis. It disappears spontaneously in a few weeks.

In all cases of pains in the joints look for an eruption on the skin—purpura rheumatica, urticaria, erythema multiform.

Remember that red or brownish-red spots the size of a split pea or larger, occurring on the face, forehead, chin, soles of the feet, or palms of the hands,

showing a tendency to desquamate or crust formation, suggest congenital syphilis.

Papular, excoriated, and macerated eruptions often occur around the mouth or anus.

The snuffles are dry at first, but gradually a dirty, purulent or bloody secretion is discharged from the nostrils. It is the most constant symptom of congenital syphilis, but must not be mistaken for congenital adenoids or the accumulation of filth in the nose. Syphilitic coryza must always be sought as a corroborative symptom of eruptions.

Syphilitic pemphigus appears during the first few days of life; the lesions have bloody or cloudy contents, and not clear and glistening as in impetigo bullosa.

Do not forget that on the lower extremities, and buttocks especially, skin eruptions may occur which resemble the lesions of psoriasis, and which are due to congenital syphilis.

Rhagades at the angle of the nose, corners of the mouth, around the anus, or between the toes are valuable diagnostic signs of syphilis.

A diffuse infiltration of the skin (Hochsinger) occasionally occurs, and is characterized by a thickened, reddened integument, with fissures in various parts of the body.

Remember that after the fifth year syphilis tarda may appear, and is characterized by periostitis and gummata.

Do not mistake the following conditions for syph-

ilis: impetigo bullosa (pemphigus), simple coryza, the physiologic erythema and desquamation occurring in some infants a few days or weeks old, lesions on the buttocks from irritating fecal discharges, and the peculiar shining skin of the feet in marasmus.

The general nutrition is always disturbed in hereditary syphilis.

Remember that the occurrence of secondary lesions due to hereditary syphilis after six months is extremely rare.

PARALYSIS.

Remember that an infant should hold its head up at three to four months; some infants are able to support their head pretty well a few weeks after birth. When an infant can not hold its head up at six months, and there is no history of a nutritive disorder, examine carefully for cerebral palsy.

An infant should be able to sit up unsupported at six or seven months. If it can not do so at eight months, and there is no history of malnutrition, examine carefully for cerebral palsy.

An infant should be able to stand with slight support at nine or ten months. Sometimes rickets or a previous history of malnutrition very much delays this function, but in any case always examine for cerebral or spinal palsy. It is surprising how many infants will have a cerebral palsy unrecognized until the second year.

Remember that a cerebral diplegia may coexist with a nutritive disorder, and hence the diagnosis

is often uncertain. Rickets and tetany, with cerebral diplegia or congenital myotonia, may be found at the same time. It is often difficult to decide where the nutritive part of the disturbance in the locomotory apparatus ends and the organic disease begins.

Rarely a diagnosis of cerebral palsy will be erroneous; the symptoms disappear on improving the nutritive condition. A premature infant may show rigidity of certain muscles and exaggerated reflexes which may entirely disappear later.

When the nutritive condition is good and the infant shows a weakness of muscles, with persistent or recurrent attacks of rigidity and exaggerated reflex, cerebral palsy may be safely diagnosticated.

Remember that a peripheral neuritis very much simulates an acute poliomyelitis. The former gets well, the latter never completely.

Do not mistake pseudoparalysis for true paralysis. The former signifies a fixation of the muscles because their contraction or movement causes pain.

Remember that the most common causes of pseudoparalysis are syphilitic osteochondritis or epiphysitis and scorbutic epiphysitis and arthritis. Examine for other evidences of syphilis or scurvy.

Do not forget that acute rickets may bring on symptoms of pseudoparalysis.

If a child suddenly fails to use a limb, be sure to exclude fracture or dislocation. In febrile children examine for arthritis, osteomyelitis, or rheumatism.

In infants a general weakness of the muscles occurs in many severe infectious diseases. A rare disease is the congenital myatonia (Oppenheim), in which a weakness of the muscles of the extremities, loose joints, and lessened irritability of the nerves have been found.

An extreme form of asthenia occurs in amaurotic family idiocy.

It is necessary to differentiate carefully the spastic from the flaccid paralysis of the extremities. The former usually indicates a cerebral, the latter a spinal, origin of the disease. In the former class there is an increase of the deep and superficial reflexes, in the latter these are lessened; the reaction of degeneration occurs in the latter variety.

The flaccid paralysis occurs in acute poliomyelitis, myelitis cervicalis, myelitis transversus, and Landry's paralysis.

Do not forget that peripheral neuritis is often mistaken for poliomyelitis. The former disease occurs after acute infectious diseases or intoxications, is bilateral, and involves all extremities more or less. Marked disturbance of the sensory nerves is also a prominent symptom.

A similar disease is post-diphtheritic paralysis, though atrophy of the muscles is usually much less.

Remember that atrophy of the muscles occurs after all the spinal and peripheral paralyses. It is much less marked in the spastic varieties.

Do not forget, however, that the spasticity in

cerebral palsy may be very slight or observed only at times when the child is excited.

On the other hand, there are several forms of spastic paralyses which are due to spinal lesions, as the spastic spinal paralysis, Little's disease, etc.

Remember that it is not always necessary to locate the lesions in an exact anatomical spot in the brain or cord, since this does not assist us in treatment.

A cerebral spastic paralysis may occur in any disease of the brain that is severe enough to cause a destruction of the gray or white matter in the motor areas, as hydrocephalus, abscess, tumor, injuries, embolism, etc. The most common cause is a diffuse cerebrospinal sclerosis of an unknown origin and occurring at birth or within the first few years of life.

It may occur after cerebral hemorrhage or any acute inflammation of the meninges and cortex.

Paralyses are to be carefully distinguished from the myopathic forms of atrophy. In these diseases there is a slowly progressive weakness of the muscles, usually symmetrical. The excitability of the muscles is diminished, and great wasting of their substance ensues. The diseases occur in older children. Several types have been discovered. The pseudohypertrophic form is the best known. In this disease the weakness begins in the lower extremities, and the child first becomes very tired in walking. The gait becomes uncertain. He has great

difficulty in getting up from the recumbent posture, and assumes an erect position with great effort. The atrophy may spread to the buttocks, shoulder, and arm. The size of the muscles, especially those of the calf, may be enlarged apparently. Contractions are very apt to follow.

It is well to remember that atrophy of the muscles may also follow spinal diseases—so-called neurospinal forms of progressive muscular atrophy. Several types have been described.

It is well to remember that paralysis of the palate occurs often after diphtheria, with the consequence that the food is rejected through the nose after swallowing. The voice also has a peculiar nasal twang. The palate does not rise on speaking. When the post-nasal space is filled with adenoids, the palate moves with difficulty. Similarly, any severe inflammation, as a post-pharyngeal abscess, interferes with the movements of the soft palate.

In facial paralysis investigate carefully the condition of the middle ear. Caries of the petrous portion of the temporal bone may induce a neuritis.

Remember that the reaction of degeneration occurs in severe cases of multiple neuritis as well as in spinal paralysis. An increased irritability to the galvanic and faradic current occurs in tetany, and to a less extent in chorea minor.

Do not be too sure that the patellar reflex is increased in a given case; healthy children often show very strong tendon reflexes normally. The

patellar reflex is increased in all cerebral palsies and acute meningitis. It is diminished in the spinal paralyses, in all wasting diseases, and in many severe infectious diseases—diphtheria, pneumonia. The cremaster reflex has not won any great place for reliability. The Babinski reflex may occur normally in infants, and after three years it may be a corroborative sign of spastic spinal paralysis.

Do not mistake the muscular weakness preceding chorea for paralysis, an error that is often made.

In all cases of paraplegia, especially if the disease has a gradual onset, do not fail to examine the spinal column for evidence of Pott's disease. This variety of paralysis is usually of the spastic type. The sphincters are involved early.

Remember that facial palsy may be caused by the blade of the forceps. It almost always gets well.

Erb's paralysis, a palsy of the muscles of the arm and shoulder, is the most frequent type of obstetrical paralysis, and is caused by injury to the fifth, sixth, and seventh cervical nerves.

It is well to bear in mind that paralysis in children is one of the most common causes of deformities.

Do not mistake the atrophy from spinal paralysis for the atrophy following tuberculous disease of a joint.

Remember that the glutei and hamstrings are not often affected in infantile spinal paralysis; the sphincters always escape.

The obstetrical paralyses are caused by injury to

the cervical plexus at birth, and may or may not be permanent.

Do not be vexed if you do not recognize a poliomyelitis in the acute febrile stage, for not many physicians can do it. This disease should be considered, however, in an acute fever of obscure origin, accompanied by pains and hyperesthesia in the lower limbs.

Remember that contractures occur in tetany, cerebral and spinal palsies. Rigid muscles, yielding like a bar of lead, are often diagnostic of cerebral diplegia or paraplegia.

Remember that Kernig's sign is an extremely valuable sign in the acute fever of a previously healthy child, and suggests meningitis. It may occur in tuberculous meningitis; rarely it is found in meningismus. It is normal in young infants.

The **Babinski reflex** has no significance in infancy. In children its presence indicates a lesion of the pyramidal tract.

Brudzinski's neck sign is more valuable than Kernig's sign to establish the presence of meningeal inflammation. Forcible flexion of the retracted head induces a flexion of the thighs and legs.

TREMOR—CHOREIFORM MOVEMENTS.

Tremor occurs in infants exhausted from a severe nutritional disorder, and is common in all the cerebral and some spinal diseases.

Fibrillary contractions are a marked symptom of

paramyoclonus multiplex, but it may be found in any chronic cerebral disease. Sometimes it is observed in acute leptomeningitis. In the spinal form of progressive muscular atrophy it may also occasionally be present. Twitching of the muscles may be normal, or at least occur in apparently healthy children.

The most common cause of choreiform movements is chorea minor. These are commonly described as irregular, jerking movements; never rhythmical and entirely involuntary. As a rule, the spasmodic movements begin in the facial muscles and gradually spread to other portions of the body.

Do not mistake chorea minor for irregular movements which occur in some forms of cerebral disease. Examine for other symptoms.

Do not mistake the tremor of Graves' disease for chorea.

Remember that Huntington's chorea is chronic and incurable, and is differentiated from chorea minor principally by the fact that it is hereditary, and as a rule occurs in adult life. It should very rarely cause any anxiety as to the diagnosis of choreiform movements in children.

The different forms of **ataxia** should not be mistaken for chorea. Inability to properly control movements occurs in many different cerebral diseases, and has little diagnostic significance when taken alone. In Friedreich's ataxia it is a prominent symptom. It occurs also in tabes infantum and multiple neuritis.

The athetosis which is a symptom of certain forms of Little's disease may have a certain resemblance to chorea, but the spasticity of the muscles in the former disease is a safe differential sign.

Electric chorea is characterized by very rapid movements, rhythmic in character and probably allied to habit spasms.

Nystagmus, while a symptom of disseminated sclerosis, occurs in young infants from nutritive disorders. Often this symptom is well marked in leucoma from previous keratitis.

Head nodding and nystagmus occur during the winter months, and constitutes a functional neurosis caused by living in darkness too much.

Hysterical paralysis and spasm may simulate spastic paralysis.

An interesting condition may occasionally be noticed in infants—namely, a hypertonicity of the muscles. It is physiologic in many young infants. Extreme degrees occur in nutritive disturbances and marasmus. High grades of myotonia may occur in young infants without definite assignable cause.

On the other hand, a diminished tonicity of the muscles in infants occurs in many nutritive diseases, and is a valuable sign of imperfect nutrition.

Do not mistake tetanus for the congenital myotonia. In the former disease trismus, dysphagia, rigidity of the whole body, and convulsions are easily recognized.

An increased muscular tone occurs in the acute and chronic cerebral inflammations and degenerations. In meningismus also this symptom is to be expected.

In myotonia congenita an increased muscular irritability causes a stiffness of the muscles on exertion after a rest.

In myatonia congenita (Oppenheim) the muscles are lax and there is a diminished muscular tonicity and irritability.

It should be remembered that, while laryngospasm occurs most commonly in all acute inflammations of the larynx, it may occur in some cerebral diseases.

Do not regard night terrors with alarm, but in all cases give the child a careful examination. Look for gastroenteric irritation, mucous disease, constipation, helminthiasis, and adenoids.

It is well to bear in mind those forms of coma which are not the lethal symptoms of the severe infectious diseases. Excluding stupor from drugs or poisons, coma occurs in uremia, diabetes mellitus, cerebral embolism, thrombosis, or hemorrhage.

Syncope is not a common symptom in childhood, except during the course of the acute infectious diseases. In anemia and cardiac diseases a tendency to fainting may be present.

PAIN—HEADACHE—MENTAL DEFICIENCY.

General hyperesthesia occurs in cerebral inflammations and lesions of the spinal cord. This symp-

tom is characteristic of polyneuritis. In acute articular rheumatism and rickets, local pains may be mistaken for a general hyperesthesia. Care must also be taken to exclude infantile scurvy.

Remember that scarlet fever and septicemia may produce a general hyperesthesia. The muscular pains in serum disease may be very severe.

Do not forget to inquire carefully into the history of the family and companions of a patient who suffers from repeated attacks of headache. It is often the first symptom of a tuberculous meningitis.

All acute and chronic cerebral diseases may be accompanied by a severe headache. Acute intestinal intoxication is often a cause, but this disappears on the administration of a purgative. Children often complain of headache from hunger. Migraine occurs in children, and should be suspected if the headache arises periodically and is characterized by vomiting.

Neuralgia is not common in children, but headache from nasal, eye, or ear disease is frequent. Examine the post-nasal space for adenoids.

Malaria is not an infrequent cause of recurrent headache.

Do not forget eye-strain in the headaches of school children.

In diagnosing mental deficiency in children, compare the child's speech, acts, and appearance with an average child of the same age.

A backward child is one that has the normal

traits of a younger child; mental deficiency is characterized by traits not found in any child at any age.

Most cases of mental deficiency have physical stigmata; that is, the body and mind develop coincidentally—if one shows defects, the other will also be defective.

It is by no means certain that it is necessary to classify all mental deficiencies as far as treatment is concerned. The cretin, however, should be recognized, as this form is often amenable to therapeutic effort. Notice the parchment-like complexion, the dry hair, the long head, dull expression, small stature, and short extremities.

A diagnosis of cretinism should be made early in order to institute proper treatment.

Irritability of temper may be caused by any irritative lesion of the body. Sometimes it can be accounted for only by bad training. The spoiled child can make the life of the attendants miserable.

Be sure to test the hearing carefully whenever the child does not talk; often mutism depends on deafness. A child that does not speak words by the time it is two years of age must be examined as to its mental condition.

Do not entertain the common erroneous idea that tongue-tie has something to do with lack of speech.

Inability to speak is generally part of the syndrome of cerebral palsy.

CHANGES ABOUT THE EYES.

Do not mistake congenital strabismus during an acute fever as a symptom pointing to meningitis. Inquire as to the onset of the symptom whenever observed.

Be sure to differentiate between paralytic squint and strabismus proper. In the latter disorder the squint is perceptible in all movements of the eye, and is always the same degree; in the paralytic form increased movements of the eyes increase the divergence of the axes.

A disturbance in the concomitant movements of the eyes is a most valuable sign in the various forms of meningitis and cerebral abscess. But it is common after a convulsion, and is frequently noticed during the sleep of infants who show no abnormal symptoms.

Remember that the newly-born infant for a period of several weeks has difficulty in focusing both eyes on an object, and irregularity of movement may be noticeable. Sometimes this is so marked as to be mistaken for strabismus.

Inquire carefully as to the previous symptoms in any acute attack of paralytic squint. Diphtheria is the most common cause.

Changes in the pupils of the eye are often of marked diagnostic value. Oscillating pupils, varying in size, occur in tuberculous meningitis. In acute leptomeningitis a changing pupil is often

noticed. On moving any limb, dilatation of the pupil may occur in meningitis. Irregularity of the pupils is often found in all cerebral diseases. Pupils that do not react to light are common in the terminal stages of any infectious disease.

In purulent conjunctivitis be sure to consider gonorrheal and diphtheritic infection.

Ecchymosis of the eyelids is one of the symptoms of infantile scurvy. A hemorrhage may occur in Tenon's capsule and produce a prominence of the eyeball.

CHANGES ABOUT THE EAR.

In all cases of obscure fever in children do not fail to examine the ear.

Test the child's hearing in all conditions that suggest a backward mental development.

Remember that the auricle may become enormously swollen from urticaria, serum disease, or erysipelas. Insect bites often cause swelling of the external ear.

Examine the ear in all cases of crying and obscure restlessness in infants; acute otitis media often causes severe symptoms, which may be mistaken for meningitis or sinus thrombosis.

A furuncle in the auditory meatus may simulate a mastoiditis.

Do not fail to examine the ear for a foreign body in children who persistently complain of earache or headache.

Sudden deafness may occur after mumps and cerebrospinal fever.

Do not mistake an increased secretion of cerumen for pus; often the increased secretion means that there is some trouble in the Eustachian tube or middle ear.

In all cases of recurrent earache or deafness examine for adenoids in the nasopharyngeal space.

Enlarged lymphatic nodes situated immediately below the ear call for an examination of the meatus and middle ear.

Intertrigo in the sulcus back of the auricle is a common affection in poorly nourished infants.

Mastoiditis may occur in infants, but is not usually serious, since the mastoid cells are not developed, and the pus collecting in the single antrum can escape through the thin wall under the periosteum externally. Mastoid involvement usually appears as a post-auricular abscess in infants.

Remember that acute otitis media is a common complication of influenza, diphtheria, measles, pneumonia, scarlet fever, typhoid fever, pertussis, and syphilis. In ileocolitis and marasmus the disease is often not recognized.

CLINICAL SYNDROMES.

Fever.

(Elevation of temperature; rapid pulse; pulse-respiration ratio, 4 to 1; hot, dry skin; coated tongue; diminished flow of urine; thirst; lassitude; pain in the limbs; loss of appetite.)

In general, fever should be considered the syndrome of the infectious disease. Ascertain the site of the infection and determine its character.

Always establish the presence or absence of fever in any acute or chronic illness.

Always take the temperature in the rectum of infants. The axilla and groin are very unreliable.

Do not forget to disinfect your thermometer after using it.

Fever indicates the presence of an infectious disease. As a corollary it may be added that an acute fever indicates an acute infectious disease. Thermic fever and fever accompanying injuries to the brain are excepted.

Almost all the acute infectious diseases in infancy are accompanied by fever in some part of their natural course. It is the duty of the physician to locate this infectious process and determine its character.

Do not diagnosticate a given fever as caused by teething. Search for the infection. Fever from teething alone is a great rarity; do not be deceived.

(A) Acute Fever With No Other Prominent Symptoms.

Inflammation of the throat is the most common cause of this syndrome; but, before examining the throat, palpate the post-cervical nodes and the nodes at the angle of the jaw; observe the respiration; judge whether the child appears in pain spon-

taneously or on movement. Then examine the throat.

Examine the throat in every case of an acute fever. Never forget this golden rule.

If sore throat is present, you establish another syndrome—fever and sore throat (B).

If no sore throat is found, it is necessary to make a complete physical examination. Undress the child.

Examine the skin for an eruption.

Make a careful physical examination of the chest.

Inspect the abdomen and palpate each organ. If nothing is discovered, examine the mouth.

Notice the presence of ulcers on the gums and tongue. Note the presence of gingivitis, and swollen gums from eruption of teeth.

Notice every enanthem on the mucous membrane. Nothing is found.

Inquire carefully into the history of feeding. Has something unusual been given? Is the season propitious for gastroenteric infection? Vomiting is often a part of any febrile syndrome. Nothing is discovered. Obtain some of the urine. Test for albumin; if cloudy, ascertain if due to pus. Still no evidence of disease.

Consider the blood infections. Has the child been exposed to malarial infection? Examine the blood.

Inquire into the health of other members of the family, or playmates. Have any of them had an infectious disease recently?

If all this investigation leads to no definite re-

sults, there is nothing to do but give a mild laxative and fever mixture, and wait. At the next visit the same complete examination must again be made. If still nothing is discovered, the expectant treatment must be continued. If the temperature disappears, it may never be determined what was the matter. This should be very rare when the proper care has been taken to examine the child.

If the fever persists, it is customary in all malarial countries to give a few doses of quinin as a diagnostic procedure.

If the fever is markedly influenced by this drug, the assumption that the fever was malaria may be correct. A typical remittent or intermittent character of the fever which promptly yields to quinin is very strong evidence as to the malarial nature of the disease.

If the fever persists in spite of quinin, a daily search for abscess must be made. A pyelitis should be recognized early from the pus in the urine. Much more obscure may be a perinephritic inflammation, which can be detected only on palpation, as a painful swelling around the kidney. Examine the blood for a leucocytosis.

A gradually rising temperature, with no marked increase in the leucocytes after a few days, suggests an inquiry into the possibility of typhoid fever. No positive diagnosis of this can be made in less than a week. The pulse is comparatively slow, tongue furred in the center, and reddened edges; look for

rose-spots. One spot is often diagnostic. Have the blood examined for the Widal reaction.

If the Widal test is persistently absent, no rose-spots appear, and a leucocytosis becomes more marked, a diagnosis of cryptogenic septicemia is permissible.

Remember that any part of the body may be the nidus for pathogenic germs. Find the seat of their growth and determine their kind.

Do not believe that two-thirds of the fevers in children are caused by malaria, even in malarial regions. Search for other causes.

Do not make a diagnosis of malaria without finding the plasmodia in the blood, unless you have positively excluded cystitis, pyelitis, endocarditis, and tuberculosis.

Do not conclude that because the administration of quinin had an ameliorating result in fever that the disease is malaria. Quinin acts favorably in cystitis, influenza, and other infectious diseases.

Remember that malaria in infants, while often assuming the quotidian type, has periods of remission; but this is not sufficiently distinct to separate it from septic fevers and endocarditis.

In an acute fever of only a few hours' duration, when no local infection can be found, no positive diagnosis can be made. Teach the laity that time is often necessary to make a diagnosis. Do not make scientific guesses on probabilities. It is safe, however, to treat a patient on probabilities. Thus,

in summer, in the absence of other causes, it is safe to assume an intestinal infection; give a dose of castor oil, and restrict the food for a few hours. In malarial districts it is safe to give a dose of quinin.

Remember that the newly-born infant kept in a very warm room may develop a very high rectal temperature from an inadequate supply of food or water—inanition fever, thermic fever.

Hyperpyrexia is found most commonly in malaria and influenza. It may occur in any infectious disease. As a terminal symptom, it occurs in meningitis and tetanus.

The **chill** signifies the onset of an acute fever. In infants it is characterized by cold, cyanotic extremities. A convulsion may take the place of a chill.

Remember that blood examinations are always helpful in the diagnosis of obscure fevers.

It is well to remember that a severe irregular fever may occur with enlargement of the lymphatic nodes of the neck—glandular fever.

Many obscure fevers are caused by pleuritis or a pericarditis. Examine the chest in all cases of acute fevers, even if no symptoms direct the attention to the chest.

Do not forget that leukemia, pernicious anemia, or pseudoleukemia may be accompanied by febrile movement.

It is well to bear in mind that purpura hemorrhagica may be a febrile disease.

Do not overlook an infection of the bone—osteomyelitis—as a source of fever.

In summer the gastroenteric tract is the most common site of infection; in winter the respiratory tube. In summer the food contains the most bacteria; in winter the dwelling in closed rooms increases the probability of conveying pathogenic bacteria from one person to the other.

(B) Fever and Sore Throat.

The tonsils and pillars of the fauces are very much congested, and the posterior part of the soft palate has a reddened border running upward from the pillars of the fauces. This is usually associated with some coryza. Diagnosis—influenza.

A **pneumococcus infection** induces a similar appearance.

The tonsils are congested, swollen, and irregular spots of white exudate appear on the surface—follicular tonsillitis.

One or both tonsils and the palate are covered by a dirty-gray exudate, forming a solid plaque. The glands at the angle of the jaw are enlarged—diphtheria.

Examine for the Klebs-Löffler bacillus.

Do not mistake a tonsillitis in which the follicular exudate is composed of numerous spots closely packed together for the solid pseudomembrane of diphtheria.

Disseminated white spots may appear on both ton-

sils, but one patch of exudate may appear large and not be readily removable. If, after a few hours, this patch increases in size, and the nodes at the angle of the jaw are swollen, it is safe to regard the disease as diphtheria. It may be a staphylococcic infection. Only a culture can differentiate some of these cases.

A **superficial ulcer** usually associated with other ulcers of the mouth may be Vincent's angina; on microscopical examination the fusiform bacillus and a spirillum are discovered in the exudate.

A **scarlet inflammation** of the throat with or without a pseudomembrane should always recall the possibility of scarlet fever. Examine the roof of the mouth for the scarlet punctiform eruption; inspect the body for rash.

A **simple angina** with or without a coryza precedes the eruption of German measles (rötheln). Numerous post-cervical nodes will be found enlarged, and an enanthem may be noticeable on the palate. The angina of measles is sometimes noticeable.

It is well to be reminded that a simple angina often accompanies the onset of typhoid fever. The disease has been mistaken for influenza.

Very puzzling are those forms of angina associated with a well-marked gastric state. It is difficult to determine if the tonsillar swelling is primary or secondary.

Do not mistake the sore throat of scarlet fever for diphtheria. Always look for an eruption on the skin in every case of sore throat.

It should be remembered that urticaria may attack the mucous membrane, and that a reddened, swollen throat may be found in this disease.

Small ulcerations occur on the tonsil, more commonly in the structure surrounding it, and in varicella or herpes.

Swollen, congested tonsils and edema of the surrounding structures and the tonsil, with or without the pillars of fauces, projecting toward the median line more on one side than the other, and great pain on deglutition, indicate peritonsillar abscess.

In a given case of acute fever inquire carefully as to the acute diseases of other children with whom the patient has been associated; it is often possible to get a hint of the possible infection in this way. Thus, if one member of the family is or has been suffering from angina, coryza, or bronchitis, it is most likely that our patient has received the same infection.

A recurrent fever coming on two or three times a year and lasting a few days is most likely to be tonsillitis. Remember, however, that tuberculous patients have obscure attacks of fever at intervals; so also in chronic endocarditis recurrent fevers are common.

Do not overlook an acute adenoiditis as a cause of an acute fever. There is a stuffiness of the nose without swelling of the turbinated bodies.

Examine the ear in doubtful fevers. An acute infection of the middle ear has been the source of many acute fevers.

An acute fever continuing two to four days precedes roseola infantilis. The diagnosis can not be made before the appearance of the eruption.

(C) Fever With Catarrhal Symptoms of the Upper Air Passages.

(Nasal discharge; sneezing; reddened conjunctiva; lachrymation; dry, brassy cough; irregular fever.)

Influenza during the winter months begins with fever and catarrhal symptoms. The latter may not be very noticeable. Examine the throat for the typical horseshoe-shaped inflammation of the pillars of the fauces and palate.

Always look for Koplik's spots in this syndrome. They can be seen only in daylight. Look for very minute white scales on a reddened buccal mucous membrane, especially near the gums.

Do not forget that typhoid fever may begin with symptoms not unlike those of influenza.

Remember that pertussis often begins with acute catarrhal symptoms of the upper air passages, but the cough soon becomes very intense. The fever is not high, but there are rare exceptions.

Acute "colds," probably pneumococcus and streptococcus infections, begin in this way. In infants, and sometimes in children, fever is a very prominent symptom.

German measles may begin with marked catarrhal symptoms. Koplik's spots are absent. A diagnosis can be only suspected until the rash appears, unless there has been a clear history of exposure.

In every case of fever with coryza look for the presence of a pseudomembrane in the nasal meatus. A bloody discharge often indicates diphtheria. A purulent discharge occurs in the rhinitis characteristic of scrofulous children, and may assume a septic form.

Do not forget that an acute fever may be caused by acute adenoiditis following follicular tonsillitis, but it may occur primarily. A stuffiness of the nose and a discharge on the posterior pharyngeal wall may be observed. In all obscure fevers of childhood this site of infection should be borne in mind.

Never forget that an acute otitis media causes a severe fever in infants, often in children, and often follows adenoiditis.

The fever during the prodromal stage of measles is irregular and may be very high; it can easily be mistaken for pneumonia.

(D) Fever With Laryngeal Symptoms.

(Moderate fever; hoarseness; harsh, barking cough; laryngeal stridor; attacks of croup; persistent laryngeal stenosis.)

Examine the fauces. A pseudomembrane suspiciously like a diphtheritic infection at once suggests laryngeal diphtheria. Examine the nose also; true croup sometimes follows a nasal diphtheria.

In **the absence** of any faucial pseudomembrane, and no history of preceding coryza, if the laryngeal stenosis becomes gradually aggravated, it is safer to

assume the presence of a diphtheritic infection and not wait for the results of a bacteriological examination.

Acute laryngitis may be secondary to any infectious disease of the nose or throat. Acute catarrhal laryngitis, with paroxysms of spasmodic stenosis, occurs as symptoms of influenza or common "colds." It may depend on measles.

A differential sign of some value to differentiate a severe catarrhal from a pseudomembranous laryngitis is the complete aphonia in the latter affection.

(E) Fever With Pulmonary Symptoms.

(Rapid respiration; pulse-respiration ratio, 3 to 1; painful, suppressed cough or a ringing free cough; pain in the chest; expectoration.)

The **diagnosis of chest disease** is made by careful physical examination. Sometimes two or three days may elapse before the local changes are sufficiently developed to be made out by physical exploration. Occasionally there may be a constant absence of the physical signs, and yet from the course of the fever and the attending symptoms no doubt of a pulmonary disease can be entertained. As is well shown at autopsy, many pneumonias of a small area are overlooked on physical examination.

Look for simple bronchitis, bronchiolitis, bronchopneumonia, secondary septic pneumonia, acute pulmonary tuberculosis.

The last-named disease can not, of course, be diag-

nosticated during an acute fever of a few hours' or days' duration.

Remember that, while the expiratory moan or grunt is heard in pulmonary inflammations, it may occur in abdominal diseases, or even in some general infection.

(F) Fever and Diarrhea. (See Diarrhea, page 42.)

(G) Fever and Cardiac Symptoms.

(Moderate, irregular fever; precordial distress; rapid pulse; endocardial or pericardial murmur.)

There can be no doubt that many cases of recurrent fever are due to endocarditis without the manifestation of any cardiac symptoms.

In pericarditis the friction rub is characteristic. An effusion into the pericardial sac is shown by the increased breadth of the cardiac dullness and the feeble heart sounds.

Do not mistake hydropericardium for cardiac dilatation. The latter shows a feeble pulse and markedly accentuated second sound.

It is difficult, at times, in cases of acute fever which reveal the presence of a soft systolic murmur over the heart to exclude an acute endocarditis.

Remember that an acute endocarditis may show no cardiac symptoms for many days.

(H) Fever and Peritonism. (See page 110.)

(I) Fever and Cerebral Symptoms. (See Cerebral Irritation, page 121.)

(J) FEVER AND JOINT SWELLINGS.

The **most characteristic** disease of this syndrome is rheumatism. Several joints are usually involved successively.

The inflammation of the joint is fugacious; endocarditis is common.

Acute septic arthritis or acute osteomyelitis should not be mistaken for rheumatism; only one joint is involved, the pain is severe, and the inflammation persists. Gonorrheal arthritis may occur in children.

Do not overlook an abscess which may occur near a joint and simulate a joint disease. Scurvy is rarely accompanied by fever.

(K) FEVER AND DYSURIA. (See page 67.)

Examine for cystitis and pyelitis.

(L) FEVER AND ENLARGED CERVICAL NODES.

This is very common in all acute infections of the mouth, nose, and throat. Examine these regions carefully. Multiple enlargement of the lymph nodes suggests some skin eruption, as German measles. A chain of glands along the sternocleidomastoid is found in glandular fever.

Do not mistake an abscess for a simple adenitis.

A smooth swelling in front of the ear is found in mumps. It may occur also under the inferior maxillary bone. In the latter place especially it is sometimes difficult to determine whether a lymph node or the submaxillary gland is involved.

(M) Fever and an Eruption.

For **practical purposes** it is well to bear in mind a few general types of eruptions. The first of these is the simple erythematous eruption—that is, there is a diffuse redness of the skin. With fever it occurs in erysipelas, in which disease the skin is swollen and shiny, and may be mistaken for urticarial patches; in German measles areas of the skin may resemble erysipelas.

The **second type** is that called roseola. It occurs especially in typhoid fever and some intoxications, and also in roseola infantilis.

The **third type** is the morbilliform, and is found especially in measles and rötheln, but may occur in some forms of urticaria and also in megaloerythema.

The **fourth type** is the scarlatinal form, and occurs in scarlet fever, Duke's disease, and some scarlatiniform eruptions in toxic and infectious diseases.

The **next type** is the annular, and is typical in erythema multiform.

The **last type** to be mentioned is characterized by wheals and papules, and is typical in urticaria, serum disease, strophulus, etc. (See Eruptions, page 68.)

Chronic Fever.

(Moderate, irregular elevation of temperature; furred tongue; feeling of weakness; pallor; emaciation; loss of appetite; restlessness.)

Always examine carefully for tuberculosis in every chronic fever. Tuberculous meningitis begins with

an irregular fever. Look for pulmonary phthisis, glandular tuberculosis, osseous tuberculosis, tuberculous peritonitis, and general tuberculosis. The family history and previous history often give valuable hints.

Malaria is a common cause of the chronic fever. Examine also for chronic abscess, empyema, and middle ear disease. Do not forget to examine the urine for pyelitis. Irregular fever often occurs in the chronic blood diseases and Hodgkin's disease.

An irregular chronic fever is a striking symptom in most cases of mucous colitis in infants and young children.

Do not overlook an empyema or pulmonary abscess.

Suppurative arthritis of infants produces a chronic fever. The local pain and tenderness may be overlooked when it occurs in the hip joint.

Status Gastricus.

(Thirst; nausea; vomiting; pallor of the lips; headache; pain in stomach; coated tongue.)

The gastric syndrome may be found at the onset of any acute infectious disease. It occurs commonly in acute indigestion, gastritis, and gastroenteritis. In obstruction of the bowels it is a prominent symptom. Appendicitis begins with gastric symptoms as a rule. Peritonitis, from whatever cause, shows gastric symptoms marked.

Do not mistake the vomiting associated with cerebral disease for the status gastricus.

Recurrent vomiting in children is a peculiar neurosis and is accompanied by acetonuria—cyclic vomiting.

Gastroduodenitis, with catarrhal jaundice, has its onset in a persistent status gastricus.

The Typhoid State.

(Moderate febrile movement; relatively slow pulse; somnolence; low, muttering delirium; intellect clouded; food usually refused; restlessness; insomnia; coated tongue with reddened edges; swollen spleen.)

The typhoid state occurs less often in the typhoid fever of children than in adults. A similar syndrome may be found in pneumonia, sepsis, scarlet fever, miliary tuberculosis, malaria, peritonitis, and ulcerative endocarditis.

Remember that the acute membranous ileocolitis of young infants is very likely to be mistaken for typhoid fever as well as meningitis.

Acute intestinal intoxication may show a similar group of symptoms.

Extreme inanition sometimes gives these symptoms, except that the temperature is subnormal.

Infantile Atrophy.

(Extreme emaciation; senile face; dusky, wrinkled skin; reddened palms and soles; prominent abdomen; restlessness; constipation or diarrhea; subnormal temperature.)

Always exclude tuberculosis and syphilis. Study the previous history as to feeding—starvation, or feeding on some indigestible food or foods containing little nutritive elements. Chronic vomiting from pyloric stenosis or gastric catarrh, chronic enterocolitis, dysentery, or repeated attacks of indigestion cause extreme emaciation.

Marasmus in infants usually arises from repeated attacks of indigestion in artificially-fed infants.

Extreme atrophy is not uncommon after cerebrospinal meningitis.

Gastroenteric Infection—Diarrhea.

(Fever; vomiting; diarrhea; prostration; sunken fontanelle; sunken eyes; pain in the abdomen.)

It is always well to determine whether the stomach or the intestines is the principal part implicated. In the former case vomiting and prostration are the prominent symptoms. When the lower part of the alimentary canal is diseased, vomiting is not a prominent symptom.

Sometimes it is difficult to separate an acute bacterial intoxication from a severe intestinal indigestion from overfeeding.

The **presence of clear mucus**, or mucopus, or pure blood in the stools indicates that the lower part is diseased.

The next point to determine is whether the contents of the bowel or the bowel wall itself is diseased. This is often difficult. No doubt an infection of the

contents of the intestine usually precedes an infection of the mucous membrane; hence at the onset it may be impossible to decide whether it will be merely a simple infection or ileocolitis.

The infection of the contents of the bowel usually recovers after a brisk purgative, while inflammation of the intestine proper is protracted. Mucopus and blood in the stool is a safe indication of ileocolitis.

Clinically we distinguish a gastritis, simple diarrhea, inflammatory (fermental) diarrhea, and dysentery. But a follicular enteritis can be suspected by the persistent character of the disease and the presence of mucous and green stools, and membranous diarrhea by the presence of small pieces of membrane in the mucopus.

Diarrhea may occur in any infectious disease.

It should be remembered that a relative polymorphonuclear leucocytosis occurs in ileocolitis and the severe intestinal infections.

The newly-born infant often has a persistent diarrhea from nursing too much human milk, but does not have fever.

A high fever usually follows the algid state of cholera infantum, probably from the excessive loss of fluids.

Severe Anemia.

(Pallor of the skin and mucous membrane; tendency to hemorrhage from the mucous membrane; emaciation not usually marked; vomiting often present; insomnia; often slight rise in temperature; blood

on puncture looks very pale as compared with normal blood; edema often present.)

An examination of the blood must be made. Chlorosis occurs usually in young girls. Pernicious anemia may occur in young children; examine the stools for the ova of the hookworm (uncinariasis). In leukemia the pallor is very marked. Repeated hemorrhages cause a severe grade of anemia in children. Do not forget infantile scurvy. Anemia —infantile pseudoleukemia—is characterized by great pallor of the skin.

Edema.

(Swelling of the extremities and scrotum, which pits on pressure; puffiness of the eyelids; swelling of the face and hands; shortness of breath; weakness; dyspnea and orthopnea; ascites often present.)

Edema occurs frequently in infants after prolonged digestive disturbance, especially when salted meat broths and cereal decoctions have been given for a protracted period.

It may occur in premature infants from feeding diluted foods.

Examine the urine in all cases of edema. Parenchymatous nephritis is a dangerous disease. Examine the heart in all cases; valvular lesions and failing cardiac compensation may be the cause.

Edema also occurs in all severe blood diseases, pernicious anemia, and leukemia.

Moderate edema of the extremities often accom-

panies ileocolitis and other acute infectious diseases. Urticaria and the exudative erythemata will sometimes show marked edema as a part of the disease.

Localized edema occurs as the result of obstruction to the circulation—as edema of the face, due to sinus thrombosis or edema of the lower extremities from abdominal tumor; a peculiar disease is angioneurotic edema, a nervous disorder.

Do not mistake a general puffiness of the skin in serum disease for edema.

Remember that the first symptom of nephritis after scarlet fever may be a general edema; examine the urine.

Remember that an excess of salt in the food favors edema; do not give salt in nephritis.

Ascites.

(Enlargement of the abdomen; dullness on percussing the dependent part of the abdomen; dullness changes on changing the position; fluctuation; navel depression obliterated; shining and tense skin; enlarged veins over the abdomen; liver pushed upward.)

It is sometimes difficult to differentiate a transudation from portal obstruction and an exudation from peritoneal inflammation. Note carefully the attending symptoms.

Do not fail to examine the heart in ascites; it may be a symptom of cardiac dilatation resulting from a valvular lesion.

Remember that cirrhosis of the liver is a common cause of ascites in the adult, and may occur in children.

Any solid tumor in the abdominal cavity may be the cause of ascites. Palpate carefully for a solid mass.

Do not mistake a distended bladder for ascites.

Remember that ascites is also part of the anasarca which follows parenchymatous nephritis.

Ascites is common in extensive tuberculous hyperplasia of the mesenteric lymph nodes.

Bear in mind the fact that, while tuberculous peritonitis causes ascites, rarely a chronic serous nontuberculous inflammation of the peritoneum may cause the same syndrome.

In all acute inflammations of the peritoneum a certain amount of fluid is poured into the cavity, but it is usually in insufficient quantity to be recognized clinically.

Chronic Constipation.

(Feces, usually hard in artificially-fed, but soft in breast-fed infants; passages less often than once a day; streaks of blood and mucus on scybalous masses; great straining at stool; restlessness; crying.)

It is common for breast-fed infants to be constipated, especially when diarrhea has been present during the first few weeks of life.

Constipation is often a prominent symptom of

rickets, a disease in which the abdominal muscles give the intestines insufficient support.

Remember to examine the abdomen in cases of protracted constipation; dilatation of the colon may exist.

Do not forget mucomembranous colitis in children when trying to account for protracted constipation.

Do not fail to inquire as to the quantity of milk taken by the baby; hunger and constipation go together.

Finally, it should be remembered that constipation is often a symptom of brain disease. In healthy children it may be caused by a disinclination to yield to the desire to defecate.

Peritoneal Irritation.

(Fever; abdominal pain; anxious face; abdomen tender to touch or pressure; abdominal muscles rigid; tympanites; vomiting.)

Always palpate carefully the right inguinal region in every form of peritoneal irritation; appendicitis is the most common form.

Do not forget to examine the chest repeatedly in all peritoneal irritations; a pneumonia or pleurisy is a frequent cause of a rigid abdomen.

Remember that primary peritonitis may be caused by a pneumococcus, influenzal, or streptococcus infection.

During the course of **typhoid fever** slight rigidity of the abdominal muscles is not infrequent. Sharp

localized tenderness, severe pain, and symptoms of collapse should suggest perforation.

It is well to bear in mind that in young infants whose nutritive condition is bad, septic peritonitis, primary or secondary, may be easily overlooked. Gangrene of the appendix may take place with little abdominal change. Great rigidity of the abdomen may be absent. Many cases of unsuspected perforative peritonitis have been found post-mortem.

In many forms of toxic or rheumatic **myalgias** the abdominal muscles may be tender and rigidly contracted.

Do not mistake the acute abdominal disturbance in gastroenteric disease for peritonitis.

Acute Pneumonic Consolidation.

(In all suspected lung diseases the child's chest should be naked. Inspect carefully the contour of the chest and the movements of the two sides during respiration. Palpate the two sides; notice the resistance to pressure in the intercostal spaces; appreciate any difference in vocal fremitus as the child speaks or cries. Auscultate carefully with the unaided ear or with the stethoscope. Finally percuss very lightly. Strong percussion is fallacious.)

In pneumonic consolidation the affected side is observed to lag in the respiratory movements; vocal fremitus is increased. Auscultation reveals bronchial breathing over the affected area, and also the crepitant rale along the edges of the consolidation. Bronchophony is a very valuable sign.

Percussion reveals dullness; sometimes a tympanitic note. Consolidation on the left side is apt to show the stomach tympany on strong percussion.

Do not mistake the normal bronchial breathing, which occurs posteriorly on the upper part of the chest near the spinal column, for a pneumonic infiltration.

Be sure that you are not dealing with a pleural effusion. Bronchial breathing is common, but the dullness is very marked; in fact, there is a flat sound on percussion. Bronchophony may also occur in pleural effusion. In children, when a pneumonia is complicated with a moderate amount of pleural effusion, it is sometimes difficult to recognize the latter.

Pneumonic consolidation occurs in croupous pneumonia, catarrhal pneumonia, hypostatic pneumonia, acute tuberculous pneumonia, secondary pneumonia of the infectious diseases, pulmonary abscess, and infarction of the lungs. The differential diagnosis depends on the accompanying general symptoms and the variation in the physical signs.

In chronic febrile conditions with pneumonic consolidation examine the sputum for the tubercle bacillus. The Von Pirquet tuberculin test is a valuable diagnostic sign in children.

Abscess of the lung is always surrounded by a pneumonic consolidation. Percussion shows flatness immediately over the purulent collection.

The consolidation in bronchopneumonia may be so

slight that its detection is impossible on physical examination.

Chronic Indigestion in Older Children.

(Anorexia; vomiting at times; coated tongue; intestinal pains; diarrhea or constipation; mucus in the stools; flatulence; bad breath; lassitude; headache; muddy complexion; irregular fever.)

Always examine the stools carefully in all chronic indigestion; the persistent or periodic presence of large quantities of mucus indicates the presence of mucomembranous enteritis.

Remember that in any severe anemia digestive disturbances are very common.

Do not fail to search for evidence of latent tuberculosis in all chronic indigestions of children; inquire into the possibility of tuberculous infection.

Remember that some writers have described a special indigestion in scrofulous children.

Do not fail to examine the child for dilatation of the stomach in chronic digestive disorders.

A not infrequent cause of chronic indigestion is a previous enterocolitis; the convalescence is very protracted in some of these cases.

The syndrome of chronic indigestion occurs in chronic intussusception.

Do not fail to examine the stools for worms or the ova of worms in all children presenting these symptoms.

The Adenoid Face.

(Open mouth; base of the nose broad; listless, stupid appearance; stunted growth; snores in sleep.)

Examine for adenoids by palpating post-nasal space. Examine the nasal meatus for tumor, hypertrophied turbinated bodies, or polypi. The pharyngeal tonsils may be so large as to impinge on the palate and obstruct nasal breathing.

The Hatchet Face.

(Cheeks flattened; long, pointed nose; sunken eyes; deep furrows in the face; extreme emaciation.)

This face is especially characteristic in marasmus; also observed in starvation, as in esophageal stricture; it may be observed after chronic meningitis or cerebral abscess.

The Cretin Face.

(Apathy; face plump; skin thick and dry; muddy complexion; eyelids pseudoedematous; wrinkles on forehead; nose prominent and bridge depressed; lips large; mouth open; prognathism.)

Do not mistake cretinism for rickets. Growth is much more stunted in the former disease.

Mongolism is frequently mistaken for cretinism. The slanting eyes, the soft skin, and the small nose are characteristics of the former disease, quite different from the latter.

Achondroplasia has a certain resemblance to cre-

tinism, but the shortened legs and normal intelligence in achondroplasia should be sufficient to call attention to the disease.

Intestinal Obstruction.

(Severe paroxysmal abdominal pain; obstinate constipation; absence of flatus; violent, uncontrollable vomiting; vomiting of bile, blood, and fecal matter; tympanites; visible peristaltic waves; facial signs of distress and anxiety.)

Do not mistake the severe colic of breast-fed infants or the severe pains in ileocolitis for intestinal obstruction.

Remember that in the newly-born congenital defects in the alimentary canal may cause this symptom-complex.

It is well to bear in mind that peritonitis from any cause (appendicitis, abscess, pneumococcus infection) may simulate the picture of intestinal obstruction. The presence of high fever, however, is a differential sign.

In infants evidence of intestinal obstruction must invariably direct attention to the possibility of intussusception. The passage of pure blood is a strong, corroborative sign.

Other causes of intestinal obstruction in children are foreign bodies and worms.

Do not forget to examine carefully for a strangulated hernia at all points in the abdominal wall where hernia might occur.

Obstruction by valvular or peritoneal bands is comparatively rare.

Vomiting in cyclic vomiting may be so severe as to simulate intestinal obstruction. In acute toxic gastritis the question of intestinal obstruction may have to be considered.

Remember that in severe duodenitis or jejunitis the vomitus may have the character of intestinal contents.

Scrofula.

(Protracted conjunctivitis and keratitis; blepharitis; chronic eczema; chronic coryza; ulcers of the nostrils; otitis media; enlarged lymph nodes.)

Remember that most American authorities deny the existence of any condition outside of tuberculosis which should be termed scrofula; yet a certain number of high authorities persist in using this term, and it may be found convenient to use it in the case of children who show a remarkably poor resistance to some mild infections or whose healing power of cutaneous lesions is very poor.

Tuberculous lesions should be termed tuberculosis, and not scrofula. Do not hide the former infection under the name of scrofula.

The pathological condition in most cases is an infection by the pyogenic cocci of the skin and mucous membrane, but which refuses to heal rapidly as in a healthy child.

Tuberculosis.

The extreme necessity of diagnosticating tuberculosis early prompts the interpolation of a few hints on the methods of inquiry to determine the presence of this disease.

Ascertain a possible hereditary predisposition. Inquire if any ancestors or their families have died of tuberculosis.

It is of **greater importance** to discover the opportunities of infection. Has the child been associated with a tuberculous individual in the family, relatives who often visit, other visitors, playmates, servants, etc.? Sometimes this point is exceedingly difficult to determine. Ask if any one has a chronic cough who is associated with the patient. Has any relative gone to Colorado or the southwest for bad health, and has this person been in contact with your patient? The act of kissing is most likely to convey the disease.

Inquire carefully as to the previous history of pneumonia, measles, and whooping-cough, during which illnesses, if the child has been previously infected, there is a great likelihood of the tuberculous process becoming active.

Remember that tuberculous patients show great liability to temperature variations. Inquire if the child gets very high fevers on slight or no apparent cause.

A tuberculous patient often shows recurrent at-

tacks of bronchitis and bronchopneumonia. Often digestive disorders for a prolonged period precede the more active symptoms of tuberculosis.

Emaciation without apparent cause is another corroborative symptom.

Have the temperature taken carefully several times a day for a prolonged period.

Examine carefully for pulmonary, glandular, osseous, and peritoneal tuberculosis.

A cough that persists in spite of treatment does not mean tuberculosis unless other signs are found.

Examine the sputum for the tubercle bacillus repeatedly.

The Von Pirquet tuberculin test is very simple and harmless, and has a great value in establishing the presence of tuberculosis in the body. One or more minute scarifications are made in the arm and a small drop of tuberculin placed upon them. In twenty-four to forty-eight hours in infected children an inflammatory area appears around the abraded spots.

Remember that a diagnosis of tuberculosis will often be made and the clinical symptoms disappear again.

Do not forget to consider bronchiectasis and interstitial pneumonia before pronouncing the pulmonary lesion tuberculous.

Tuberculous meningitis is usually the striking syndrome of a more or less generalized tuberculosis.

Impending Heart Failure.

(Repeated vomiting; precordial or abdominal pain; extreme prostration; dyspnea; anuria; albuminuria; pulse small and rapid, or soft and slow, or galop rhythm; first sound of heart very indistinct or absent, second sound accentuated; epigastric pulsation; cardiac dullness increased in breadth; cold extremities; pale, dusky countenance; edema of the lungs; swelling of the liver.)

Do not mistake the symptoms of collapse after typhoid perforation, cholera infantum, or severe hemorrhage for cardiac failure.

Examine carefully for a pleuritic effusion in symptoms of cardiac weakness preceded by symptoms referable to the lungs.

Remember that this syndrome is one of the sequels of diphtheria. It may come on several weeks after the throat is entirely healed.

A rapid swelling of the liver often indicates dilatation of the right side of the heart. It may occur in acute gastroenteric disease, cyclic vomiting, or pneumonia.

This syndrome forms the terminal symptoms of many acute and chronic infectious diseases; always watch the heart.

In very severe forms of pertussis the heart may give way to the uncontrollable coughing; watch the heart in whooping-cough.

In cholera the irregular movements may be so continuous and violent as to lead to cardiac dilatation.

This syndrome forms the dangerous symptoms of chronic valvular disease with noncompensation, and often can be relieved.

In laryngeal stenosis the laborious efforts at respiration ultimately lead to general exhaustion and cardiac dilatation.

Do not mistake syncope during the course of an acute disease for the terminal exhaustion.

It is sometimes impossible to determine whether an acute dilatation of the heart is due to a myocarditis from some toxemia or muscular exhaustion from overwork.

Nervous State.

(Lassitude; irritability of disposition; impatience; tremor; muscular twitching; headache; insomnia; often bad dreams.)

Examine carefully the digestive apparatus; chronic dyspepsia is a common cause of the nervous state. Overeating may bring on the trouble.

It is common in all forms of anemia and mild infectious diseases. It occurs in Graves' disease; many local diseases give these nervous symptoms.

Remember that mucomembranous colitis is one of the most easily overlooked, but nevertheless not infrequent, causes of great nervousness.

In the persistent nervous state orthostatic albuminuria should be suspected.

Examine the heart in all cases. Endocarditis or pericarditis may be the cause of the trouble.

Anemia is often associated with this condition. Disturbances of nutrition must always be sought.

Acute cystitis is a common cause of the nervous state in girls.

In all nervous children a careful investigation for worms should be instituted. Give a purgative and let the mother search for worms. Examine the stool with the microscope for ova.

Small irritative lesions produce the nervous state. Thus, teething is a common cause in infants; intertrigo, sore mouth, enlarged cervical glands, fissure of the anus, furuncle, patch of eczema, infection with scabies, urticaria, impetigo, etc.

Where nothing can be found to account for the nervous state, it must be referred to a neuropathic disposition or lithemia.

It should not be forgotten that **overexertion** in mental activity often produces the nervous state, especially in girls. The combination of hard study, school anemia, and little outdoor exercise are a common source of nervousness.

Cerebral Irritation.

(Irritability; peevishness; vomiting; headache; convulsions; photophobia and contraction of the pupils; irregularity of the pulse and respiration; increase in muscular tonicity; muscular twitchings; stupor.)

This syndrome is very characteristic of all inflammations of the cerebral cortex and membranes; often

it is impossible to separate symptoms of pressure from those of irritation.

These symptoms are also present in brain tumor and cerebral abscess, and are to be separated from the acute and chronic inflammations by the history and focal symptoms.

During any acute disease (pneumonia, scarlet fever, septicemia, influenza, ileocolitis, cholera infantum) symptoms of cerebral irritation may appear. These are now usually grouped under the term "meningismus." The symptoms are irregular and fugacious, and the syndrome, as a rule, is incomplete. Two forms of meningismus occur: the first has a convulsive type, and is really the picture of febrile eclampsia; the second type is the somnolent form, in which stupor, increased tonicity of the muscles, sluggish pupils, vomiting, and a slow, irregular pulse are prominent symptoms. Lumbar puncture is very useful to differentiate meningismus from true infections of the cortex. In the former the cerebrospinal fluid will be clear and contain few cellular elements; in the latter cloudiness of the fluid is characteristic. When no lumbar puncture is made, it will often be necessary to wait one or two days, when the rapid improvement places the disease among the functional disorders. In fatal cases, only a post-mortem can reveal absolutely the exact condition present. Many surprises are in store for a physician who examines cases of "meningismus" post-mortem.

Acute intestinal intoxication in infants may begin

by showing marked cerebral symptoms. If convulsions occur at the same time, the diagnosis may be difficult to make. Practically, we must give the patient the benefit of the doubt and try to eliminate the alimentary intoxication.

Another important cause of cerebral irritation is uremia; therefore do not forget to examine the urine in any case of an acute or chronic disease which shows cerebral symptoms.

Remember that severe cerebral symptoms may occur in cyclic vomiting. A diagnosis of tuberculous meningitis has been made in this disease.

The **tuberculous infection** of the meninges can be separated from other infections only by the history of illness. The cerebral symptoms in any infection (tubercle bacillus, meningococcus, pneumococcus, staphylococcus) are very much the same and vary in different cases from the same affection.

Cerebral hemorrhage is separated from infections by its sudden onset and absence of febrile symptoms. Do not mistake a cerebral hemorrhage in the newly-born for tetanus.

It is sometimes difficult in the newly-born to differentiate the stupor due to sepsis from the comatose state of cerebral hemorrhage.

Do not exclude acute poliomyelitis merely on the ground that cerebral symptoms are present.

Acute poliencephalitis resembles acute meningitis at the onset, but the widespread paralysis of the former disease is characteristic.

PART II.

GOLDEN RULES OF PROGNOSIS.

GENERAL CONSIDERATION.

It is often forgotten that the art of prognosis consists not merely in foretelling the final outcome of the disease, but also in estimating its subsequent course and duration. The wisdom of relating to parents the forthcoming sequence of symptoms and the probable length of the illness, especially when the outlook is favorable, needs no affirmative arguments.

In stating the prognostic inferences, due weight must be given to the intelligence of the parents—even to the most ignorant. When in the presence of a disease which is likely to be protracted, embarrassment may be avoided by stating at the first visit that little or no improvement in the child's condition may be expected for several days.

That physician who holds the confidence of his patients by giving an accurate prognosis is more likely to succeed than one who makes great pretenses of his healing qualifications.

To foretell the course of any disease, a most accurate familiarity with its history under different conditions is absolutely necessary.

Diseases that Usually End in Recovery.

Remember that some diseases almost invariably end in recovery under any simple treatment, and the course of the disease is usually only a few days. Examples:

Follicular tonsillitis.
Acute adenoiditis.
Catarrhal laryngitis.
Simple purpura.
Spasmodic torticollis.
Rötheln.
Measles.
Parotitis.
Acute coryza.
Acute bronchitis.
Simple adenitis.
Catarrhal otitis.
Chicken-pox.
Infectious erythema.
Cystitis.

Diseases that Leave Serious Consequences.

Some diseases are rarely dangerous to life, but are prone to leave serious consequences:

Rheumatism.
Acute poliomyelitis.
Suppurative otitis.
Endocarditis.
Pertussis.

Diseases that Run an Indefinite Course.

Many diseases run an indefinite course without any great danger to life:

Constipation.
Diabetes insipidus.
Spinal paralysis.
Myotonia.
Enuresis.
Cerebral Palsy.
Epilepsy.
Arthritis deformans.

Diseases that Are Not Especially Dangerous.

Many diseases are not especially dangerous to life, but run an indefinite course unless properly treated:

Thrush.
Vincent's angina.
Adenoid vegetations.
Chlorosis.
Chronic adenitis.
Tetany.
Ulcerative stomatitis.
Intestinal worms.
Asthma.
Suppurative adenitis.

Diseases that May be Fatal to Infants.

Some diseases do not have any grave tendencies in healthy children, but may terminate fatally in infants:

Acute gastritis.
Influenza.
Measles.
Acute intestinal indigestion.
Pertussis.
Stomatitis.

Diseases that Predispose to Complications.

Many diseases are rarely serious alone, but form remarkable predispositions for complications which may endanger life or extend the illness indefinitely:

Measles.
Pertussis.
Influenza.
Scarlet fever.
Rheumatism.
Chorea.

Diseases that May Assume Malignant Forms.

A few diseases, usually amenable to treatment, may exceptionally assume a malignant form for which all therapeutic effort is futile:

Diphtheria.
Typhoid fever.
Rheumatism.
Small-pox.
Scarlet fever.
Malaria.
Pneumonia.
Pertussis.

Diseases that Present Uncertainty in Prognosis.

Uncertainty in prognosis characterizes many diseases, but this may be changed materially by instituting proper treatment early:

Intussusception.
Empyema.
Scarlet fever.
Gastroenteric infection (in infants).
Appendicitis.
Diphtheria.
Acute nephritis.
Pneumonia.

Diseases that Yield to Careful Nursing.

Some diseases yield to careful nursing and therapeutic measures extending over a long period of time, but the prognosis must be determined in each individual case:

Typhoid fever.
Septicemia.
Remittent fever.
Gastroenteritis.
Bronchopneumonia.
Ileocolitis.
Erysipelas.
Tuberculosis.
Marasmus.

A few diseases, not especially affected by treatment, improve as the child grows older:

Lymphatism.
Orthostatic albuminuria.
Cyclic vomiting.
Enuresis.

Diseases that Are Usually Fatal.

Some diseases are almost invariably fatal:

Pernicious anemia.
Hodgkin's disease.
Tuberculous meningitis.
Amaurotic family idiocy.
Diabetes mellitus.
Hydrophobia.
Leukemia.
Leptomeningitis.
Miliary tuberculosis.
Cerebral abscess.
Tetanus.
Septic peritonitis.

Diseases that May be Improved by Treatment.

A few diseases may be improved by treatment, yet rarely or never disappear entirely, and the duration of life depends on the surrounding conditions:

Congenital cardiac disease.
Chronic nephritis.
Chronic interstitial pneumonia.
Dilatation of the colon.
Hemophilia.
Chronic valvular disease.
Bronchiectasis.

Hepatic cirrhosis.
Hydrocephalus.
Pulmonary tuberculosis.

Diseases that May Recur.

Some diseases have a marked tendency to recur at irregular intervals:

Rheumatism.
Endocarditis.
Cyclic vomiting.
Asthma.
Tonsillitis.
Malaria.
Migraine.

Diseases that Have Recurrence of Short Paroxysms.

The recurrence of short paroxysms is characteristic of some diseases, which otherwise would have no great danger:

Migraine.
Cyclic vomiting.
Epilepsy.
Asthma.

Diseases that Are Promptly Cured.

A few diseases are promptly cured if the proper food or medication is administered:

Malaria.
Scurvy.
Uncinariasis.

Scabies.
Rheumatism.
Syphilis.
Helminthiasis.

SOME IMPORTANT RULES.

In **making a prognosis** in any disease, do not fail to consider the nutritive history. A child who has passed through a prolonged period of nutritive disturbance has less resistance than another child who has had no severe digestive disorder.

Remember that, everything being equal, the infant who has been nourished on human milk has a tremendous advantage over the one who has been fed on artificial food. The former is much more likely to recover from any acute infectious disease.

Never give an unqualified hopeful prognosis in any infectious disease when the baby has been fed on condensed milk exclusively for many months.

Do not make any prognostic assertions if you have not made a complete diagnosis; in fact, errors in prognosis are often due to carelessness in diagnosis.

Do not declare that a certain disease will necessarily be fatal when the diagnosis is not clear or certain. Sarcomata have proven to be abscesses; a leptomeningitis may be a meningismus; a tuberculous meningitis has proved to be an attack of cyclic vomiting.

It is a good rule to give a hopeful prognosis whenever possible.

A physician should never make deductions from his fears, but use only the present facts from which to draw conclusions.

It is not a good plan to speak of possible consequences; notice only actual facts or probable inferences.

While it is simple to give a correct prognosis in those diseases which invariably end in recovery and those which are almost always fatal, there are many diseases which remain somewhat uncertain throughout their course, and a definite prognosis can not be given.

By ascertaining the history of previous illness in the child, often an estimate of his resisting power can be made. If the patient has shown marked immunity or susceptibility, it is likely that the same quality will be shown again.

Remember that the newly-born is very susceptible to influenza and bronchitis in a severe form.

The newly-born does not resist infections well; its mucous membranes are easily penetrated by bacteria.

A gastroenteric disturbance in a breast-fed child is rarely fatal; in an artificially-fed baby the disease is always serious.

A gastroenteric infection in a child rarely results badly; in the infant it always means a grave disease.

In general, in all acute infections of the respiratory tube or the alimentary canal the prognosis is unfavorable in proportion to the extent of local involvement. Thus, in pneumonia, when only one lobe

of the lung is implicated, or in colitis, when only the lower part of the colon is inflamed, the prognosis is very good.

Children stand pneumonia very well; infants very poorly.

The uncertainty of many diseases lies in the fact that it is impossible to foretell accurately how much a disease may spread from its origin. This is true in the catarrhal inflammations of the respiratory and alimentary tracts and erysipelas on the skin.

Remember that the prognosis in intussusception is absolutely bad unless the invagination can be reduced. The same rule applies to strangulated hernia.

Ileocolitis has a very high mortality in artificially-fed infants under one year of age. If the infant has been kept in an asylum, or in crowded tenement districts, and if the previous history of feeding shows grave errors, it is well to warn the parents that the disease is likely to result fatally. The pseudomembranous form is always serious even in breast-fed infants.

Do not forget to warn parents that the disease will be protracted if the clinical symptoms indicate extensive ulceration of the intestine.

Errors in prognosis are often made by mistaking a subacute follicular enteritis for simple indigestion.

Remember that the presence of thrush adds to the gravity of any form of enteritis.

Infants previously fed on condensed milk show a less resistance to gastroenteric infection than those fed on fresh cow's milk.

The prognosis in chronic follicular colitis depends on the skill of the physician in treatment.

Appendicitis is always a grave disease; 85 percent recover under medical treatment, but statistics give little aid in making a prognostic inference in a given case. In children even, operation on every case, as soon as the diagnosis has been made, does not alter the death rate very much.

General peritonitis is fatal in more than half of the cases.

Gonorrheal peritonitis usually ends in recovery; the pneumococcus infection is very uncertain; tuberculous peritonitis sometimes disappears.

Rickets is never a fatal disease uncomplicated; many infants with scurvy die, but practically all recover as soon as the proper treatment is instituted.

The prognosis in marasmus depends mostly on the financial condition of the parents; the same may be said of a case of premature infant at seven months' gestation.

Remember that premature and some newly-born infants show a great feebleness of the respiratory function; in any toxic or nutritive disease, cyanosis from failure to breathe is likely to appear.

It should be remembered, however, that the action of the heart in all severe diseases is the best index of failing vitality.

Do not be alarmed by a fleeting hyperpyrexia; a temperature of 106° for more than twenty-four hours is a bad sign.

The prognosis in primary pneumococcic or influenzal pneumonia is much more favorable than in the bronchopneumonia secondary to measles or whooping-cough.

The death rate of croupous pneumonia in children is less than 10 percent; in young infants it is nearer 25 percent.

If pneumonia appears as a complication of marasmus, ileocolitis, diphtheria, syphilis, or septicemia, it usually ends in the death of the patient.

Empyema in young infants is usually fatal; in older children prompt surgical intervention saves more than half of the patients with this disease.

The lowest mortality of empyema is shown in the pneumococcus infections.

The course and termination of chronic valvular disease is very uncertain; repeated attacks of endocarditis ultimately cause death in nearly all instances.

One attack of rheumatic fever which leaves a valve only slightly deformed may not be serious, since the defect may be entirely compensated; there is no way, however, of foretelling whether other attacks of endocarditis will appear later in life.

The insidious forms of endocarditis following recurrent attacks of subacute rheumatism are the most grave of all.

Mitral stenosis is incurable, and always ends fatally sooner or later unless the narrowed orifice is not contracted more than moderate hypertrophy

of the auricular walls can overcome. Most cases grow progressively worse.

Do not judge the gravity of a given case by the loudness of the murmur; take into consideration all the attending symptoms and signs.

Remember that pericardial adhesions, complicating chronic valvular disease, add to the seriousness of the situation.

Remember that the extent of dilatation is no reliable sign of heart disease after diphtheria. Attacks of syncope, pallor, and vomiting are signs of grave omen.

The cardiac disturbances following influenza do not often end fatally in children.

Do not promise an immediate cure in enuresis; many cases are amenable to time and training only.

Irritation of the kidneys during the course of an acute infectious disease has little or no prognostic importance.

Acute parenchymatous nephritis in young infants is fatal in most cases; children recover in a large percentage of cases.

Perinephritis is not often a fatal disease.

All organic diseases of the brain and cord are serious, either to life or function.

Prognosis in any form of tuberculosis is one of the great uncertainties of practical medicine.

The disseminated miliary tuberculosis practically always ends in death.

Tuberculous areas in the lungs may remain sta-

tionary or improve; then, again, a rapid declining course may supervene on any acute infectious disease.

Tuberculosis of the mesenteric nodes and intestines sometimes ends in recovery. Tuberculous peritonitis, except in the ulcerative form, has a much better prognosis.

Congenital syphilis usually ends in recovery under active treatment and good mother's milk; the disease has a high mortality when artificial food must be given.

The death rate from typhoid fever is much less in children than in adults.

Remember to tell parents that the given case of diphtheria will be well in four days if you have injected a good dose of antitoxin on the first day.

The mortality increases in direct proportion to the number of days that diphtheria has existed without treatment.

Do not fail to warn parents as to the possible occurrence of post-diphtheritic paralysis in all cases.

The extent of the local process in the nose and throat has some value in estimating the chances of recovery.

Remember that whooping-cough during or following an exanthem is a grave disease.

The **mortality of pertussis** is low after five years and high during infancy. The previous nutritive condition has a marked influence on the death rate. Diarrhea adds to the gravity of the disease.

Vomiting after a paroxysm of coughing has no prognostic significance, unless it is so aggravated as to interfere seriously with nutrition.

Asphyxia has been known to follow a paroxysm; fatal convulsions occur in infants.

Remember that the death rate of all children's diseases is lower in private practice than in the hospitals.

Malignant scarlet fever may destroy life in a few days; most commonly, some complication increases the danger of a lethal termination after a week or ten days. A violent onset does not necessarily signify a malignant form.

Convulsions at the onset of the disease may occur from hyperpyrexia, and are not nearly so ominous as convulsions after the disease has existed for a week or more.

An extensive pseudomembrane or great swelling of the cervical lymph nodes indicates that the disease is severe.

The death rate of scarlet fever in private practice is low, except in rare epidemics; but do not promise freedom from certain after effects, as otitis media or chronic nephritis.

While death from measles in private practice in children over five years of age is rare, in young infants the disease is frequently fatal, and pneumonia is the most common fatal complication.

Remember that a rapid increase in weight in an infant who has been ill for some time often portends death.

In gastroenteric diseases, when the subcutaneous tissue loses its elasticity and the skin feels doughy, a fatal outcome may be expected.

Failure of the peripheral circulation is one of the early symptoms of approaching death in most infectious diseases.

Do not forget that repeated attacks of anxious cries may be an agonal manifestation.

Stertorous breathing occurs in the coma of the infectious diseases as well as in those due to cerebral pressure or uremia.

Persistent restlessness and insomnia often precede death.

Restlessness and comparatively clear intellect precede death in many diseases:

Appendicitis.
Intussusception.
Chronic valvular disease.
Peritonitis.
Bronchopneumonia.
Myocarditis.

A sign of impending death is often observed in sternomastoid breathing; that is, the accessory muscles of respiration draw up the chest wall in inspiration.

PART III.

GOLDEN RULES OF HYGIENE AND INFANT FEEDING.

GENERAL RULES.

Remember that the skin and mucous membrane of the newly-born infant are very susceptible to infections and irritants. Avoid dirt and antiseptics. Asepsis is the guiding principle.

The cord dressed aseptically and dried should be let alone. Do not apply vaselin or other ointments which are liable to infect.

Do not wash and rub the skin of the newly-born too much. Overzealous care often causes a dermatitis, and washing the baby's mouth too vigorously is a frequent cause of stomatitis, ulceration, and Bednar's aphtha. Direct the nurse to look when she washes the baby's mouth. Particles of milk should be removed with sterile water, and that is all.

Do not operate on the newly-born infant. Hemorrhages are exceedingly liable to occur, and they do not stand the loss of blood.

Circumcision is best performed after three weeks. Do not perform this operation if jaundice is present.

The nurses infect the baby's eyes by washing them carelessly; the hands of the nurses who dress the mother should not touch the baby until they are disinfected.

The bath which is to be given daily in infancy should not be discontinued when the infant is two years old. Teach the habit of daily bathing.

Be careful that bathing does not convey an infection from one part of the skin to another. Pustules and vesicles are autoinoculable. The contents of a bulla of impetigo, when rubbed all over the skin, can produce a universal dermatitis exfoliativa.

Keep visitors away from the newly-born, especially in winter. Each succeeding visitor increases the liability of carrying to the baby some infectious disease.

The infant's clothing should be soft, loose, warm, and as simple as possible. Wool is preferable, but heavy cotton is almost as warm. Do not keep the baby too warm in the summer.

There is no scientific evidence that a woolen band to cover the abdomen is necessary during the summer. Keep the baby comfortable.

Discourage the practice of keeping the baby quiet by means of a pacifier.

The cradle does no harm, but it is not stylish now, and its use is really unnecessary.

Keep flies and insects away from the infant.

Keep the baby out of doors as much as possible.

Remember that young infants thrive better when some one takes an interest in them. The rules of the Foundling Asylum should not be made the basis of practice in the home.

The infant must be encouraged to exercise daily.

Lack of exercise is a predisposing cause of malnutrition and rickets.

Decayed fruits and vegetables are to be strictly prohibited in the children's diet. Raw sausages often harbor deadly poisons. Cheese is a doubtful diet for a child. Tyrotoxicon occurs in cheese.

Never give ice cream to a child unless the purity of the cream of which it is made is assured. The cream, which usually forms the principal constituent of ice cream, contains millions of bacteria to the cubic centimeter.

Remember that a healthy child does not have the sense of fatigue very strong. They often play too hard and long without knowing it. A tired feeling needs investigation.

On the other hand, many children in the city do not get sufficient exercise. The girl who sits and reads all the time gets tired on the least exertion, and headache arises from a little work.

A physician should visit the newly-born infant often; the baby may not need him, but the mother needs almost daily instruction for a few weeks.

Do not allow the baby to be rocked in the mother's arms; if rocking is necessary, get a cradle.

Do not allow the sucking of a pacifier or the thumb. It is a bad habit, and often causes deformity of the teeth or jaws.

A little playing with the baby stimulates its interest in life; but it must not be done just before bedtime. Avoid undue excitement.

Do not let the baby play with old, dirty toys. For young infants rubber, bone, wooden, and metal toys are best. These can be sterilized or cleansed occasionally. Cloth and paper toys should be burned after use.

Strengthen the child's muscles by exercise. Games with other children are best. The child who is compelled to play alone does not usually exercise enough.

Do not be afraid of bow legs in healthy infants from attempts at standing a few moments when supported under the arms. This exercise strengthens the muscles of the leg and straightens the limbs.

Cleansing of the mouth is more essential in children than in young infants; uncleanliness of the mouth is responsible for decayed teeth more than anything else.

Urge the mother to give more attention to the cleanliness of the surroundings, and she will have less trouble to keep the children clean.

Make persistent efforts to have children taught to eat properly. They must learn to like the food which we know is proper for them.

Accustom children to sleep with windows open. Fresh air prevents the tired feeling in the morning and stimulates the morning appetite.

All children should have plenty of open-air space for play and exercise. Children living in the crowded quarters of the city should go to the park nearly every day, winter and summer. The child who does not spend part of his youth in the country

or at the seashore, in the woods and open fields, is not likely to have a robust constitution to bear the burdens of later life.

Too much stress can never be laid on regular periods of rest and activity. To the healthy, growing child companions are a necessity. It is the duty of the parents to provide the proper kind.

THE NURSING MOTHER.

The best galactagogues are good food and vigorous nursing by the infant. Medicinal galactagogues have only an evanescent action.

Be certain that the infant thoroughly empties the breast at each nursing. Stagnation of the milk leads to agalactia.

Do not permit the nursing mother to give the baby one or two bottles daily, unless absolutely necessary. This is often the first step in causing a diminished flow of milk.

It is well to make the interval of feeding three hours as soon as possible, so that the mother may have sufficient time for recreation.

It is error to assume that vegetable acids, as vinegar or some fruits, make the mother's milk too acid.

There is no proof that any food which is good for the nutrition of the mother harms the baby. The withdrawal of meat when the mother's milk is too strong in proteins rarely accomplishes its purpose alone.

Let the mother eat what she likes and that to which she is accustomed.

Taste is most essential to good nutrition, and taste varies in different persons. Let the mother eat what she wants.

It is, therefore, **a mistake** to diet the nursing mother, except in rare instances. A bland, insipid diet is not provocative of a good flow of milk. It is the easiest way to diminish the flow of milk.

There is no proof that spices are harmful to a nursing mother.

Give plenty of water, but do not make them nervous by giving too much coffee or even tea.

Alcoholics are not necessary to a nursing mother, though sometimes they increase the appetite.

Do not give antipyrin, camphor, or belladonna to a nursing mother, unless it is desired to diminish the secretion of milk.

Do not give strong purgatives; regulate the bowels with vegetables, fruits, and butter.

Do not harden the nipples of the mother with alcohol or antiseptics. The nipples should not be hard, but soft and pliable. The hardened nipples develop fissures easily.

Diluted glycerin or wool fat are best to keep the nipples soft.

When the nipples are cracked and sore, the glycerite of tannin diluted is efficacious. Also use nipple shields, but keep them sterile.

Do not wash the nipples too much. Dry them after nursing. Dry mother's milk forms as good an ointment as lanolin or vaselin. Washing the nipples once or twice a day is usually sufficient.

The use of an antiseptic solution on nipples is almost always useless and often harmful, for the weaker ones kill no germs and the strong ones injure the epithelium.

The acute infectious diseases, unless severe and prostrating, are no contraindications to nursing on the part of the mother, provided care is taken not to infect the infant.

THE WET-NURSE.

Do not judge the quantity of milk by the size of the breast. A good breast is soft and flabby when empty; large, rounded, and exuberant when full.

Be sure to exclude syphilis and tuberculosis in the wet-nurse. Any acute infectious disease, such as sore throat, influenza, stomatitis, bronchitis, are sufficient indications for rejecting a wet-nurse until she recovers.

Menstruation often diminishes the flow of milk; occasionally it alters its character. It should be no contraindication for nursing the baby.

The best method of learning whether the infant is getting enough milk is to weigh the baby before and after nursing.

When the nurse's milk is failing, do not discontinue nursing and substitute a bottle. Continue nursing at the regular intervals, but give one or two ounces of artificial food after nursing the mother.

Do not continue nursing too long. Remember that the percentage of solid constituents of human milk

grows less after the sixth month of lactation. Some additional feeding after the ninth month is advisable. Nursing too long continued predisposes to anemia and retards growth.

Having engaged a wet-nurse for a feeble infant, it is best to have her continue to nurse her own baby until the foster baby is strong enough to empty the breasts completely.

Remember that in the change of food and surroundings from an humble to a luxurious home, wet-nurses frequently lose their milk, or the character of the secretion is greatly altered.

The wet-nurse should exercise daily; it is well that she should do some housework daily if she is accustomed to do this kind of work.

It is best to have her diet similar to that to which she is accustomed; it should be plentiful, however.

A wet-nurse must never be employed for a syphilitic baby; but the mother of the infant can safely supply its food.

Severe colic is often produced in marantic babies by human milk, but this is no reason why it should not be given. The dyspeptic symptoms will gradually disappear.

ARTIFICIAL FEEDING.

The golden rules of artificial feeding are absolute cleanliness in the handling of the milk and regularity of feeding.

Do not overfeed the infant.

Do not dilute the milk too much. Remember that an infant four months old often thrives on pure cow's milk.

The best substitute for mother's milk is fresh, clean cow's milk. Do not be deceived by the literature of patent food manufacturers.

Raw milk is preferable to pasteurized or sterilized milk if the milk is clean and fresh.

The death rate of infants fed on condensed milk is 15 percent higher than that of those fed on fresh milk; therefore do not recommend this food, except for temporary use, when fresh cow's milk is obtainable.

Condensed milk agrees with young infants very well if it is not made too strong and they are not overfed.

Remember that a can of condensed milk may be infected when it is opened. Do not use a can longer than two days in summer, even when kept on ice.

Remember that violent and even fatal gastro-enteritis may be produced by condensed milk that has fermented almost unappreciably. The baby fed on condensed milk does not resist the infectious diseases as one fed on fresh cow's milk.

Condensed milk may often be given with benefit to infants suffering from chronic nutritive disturbances, but its use should be only temporary.

The most common form of indigestion from condensed milk is characterized by green liquid stools, and should be treated by giving a milk mixture which does not contain much sugar.

It is not sufficient to give directions for the dilution of cow's milk and the quantity to be fed. Accurate directions for the procuring of clean cow's milk should always be given to the mother.

Remember to emphasize the dangers of small particles of barnyard filth in the milk.

Remember to teach the doctrine of cleanliness to the person who milks the cow for the milk of the baby. Milk from a herd is more uniform in composition and less liable to contain infections; but clean fresh milk from a cow is preferable to old dirty milk from a herd.

Remember to instruct the mother in the sterilization of the bottles and nipples. It is better to have enough bottles for the day all sterilized and filled with milk properly diluted in the morning. Keep them on ice.

Remember that the simple dilution of cow's milk (three parts of water and one part of milk), with the addition of 5 percent of sugar, makes a better food than condensed milk. The French and German authorities even today use simple dilutions of milk. A common rule is as follows: for a baby during the first month, three parts of water, one part of milk; infant two to three months old, equal parts of water and milk; infant three to six months old, three parts milk to one of water; older infants are fed on pure cow's milk; sugar (4 or 5 percent) should be added to diluted milk.

When the mothers lack the intelligence to carry

out more complicated instructions for the preparation of milk, it is wise to adhere to these simple formulæ.

Physicians should, however, take pride in feeding babies by the American method—that is, adjust the percentage ingredients to the needs of the infant.

Top milk is the best for home modification. The milk and cream modifications are less satisfactory.

Remember that it is the cream that gives us the most trouble and is most liable to carry pathogenic organisms. Unless the cream is centrifugal cream and prepared under aseptic rules, do not use it. Use top milk only.

Beware of gravity cream. Bacteria develop mostly on the surface of the milk. Milk that has stood twelve hours in order to allow the cream to rise is unsafe. Better use top milk which has stood only three or four hours.

Do not forget that infected milk, rather than a piece of candy or a few mouthfuls of boiled peas, is the cause of summer complaint.

Only four formulæ are necessary in the vast majority of cases for the use of top milk.

To prepare "**top milk,**" write out the following formula for the mother: "Let a quart of clean fresh milk stand in a cool place for three hours, then ladle off the upper half, including all the cream. Use only this top milk." You can direct her to use a siphon.

Remember that in the vast majority of infants

about four dilutions of top milk is all that is required.

These are as follows:

1.	Top milk	1 part.
	Water	3 parts.
2.	Top milk	1 part.
	Water	2 parts.
3.	Top milk	2 parts.
	Water	2 parts.
4.	Top milk	3 parts.
	Water	2 parts.

To all of these formulæ 5 to 10 percent of lime water should be added, or, rather, should form a part of the diluent. Then sugar (4 to 5 percent) should be added to all these milk dilutions.

Milk sugar is generally preferable for the young infant; after five or six months cane sugar usually gives equally satisfactory results.

Remember that most infants are not disturbed by slight variations in the composition of milk.

The top milk made by taking off the upper half contains about 7 percent of fat, and this top milk is perfectly satisfactory in nearly all cases. More rarely it is best to take off the upper third of the milk, which gives a milk containing about 10 percent fat. It may be diluted the same way as the 7-percent top milk; a dilution of one to five may be necessary in young infants.

The composition of the ordinary dilution of top milk (7 percent fat) is as follows:

1. 1 part top milk, 3 parts diluent, with 5 percent sugar.

Fat	1.7 percent.
Proteids	0.9 percent.
Sugar	6.0 percent.

2. 1 part top milk, 2 parts diluent, with 5 percent sugar.

Fat	2.3 percent.
Proteids	1.2 percent
Sugar	6.5 percent.

3. 2 parts top milk, 2 parts diluent, with 4.5 percent sugar.

Fat	3.5 percent
Proteids	1.8 percent.
Sugar	6.7 percent.

4. 3 parts top milk, 2 parts diluent, with 4 percent sugar.

Fat	4.0 percent.
Proteids	2.2 percent.
Sugar	6.7 percent.

Remember that the diluent of top milk is usually water with a little lime water; but barley water, rice water, roasted flour water, roasted barley water, dextrinized barley water, oatmeal water, arrow-root water, or whey, may be used in place of the water as a diluent.

It is a golden rule, it should be remembered, to give as high a percentage of protein as is possible. Do not keep the baby on a milk mixture which contains a very low percentage of protein for too long a time. Remember that infants who can digest pure undiluted cow's milk really grow most rapidly.

The nutritive ratio (the energy supplied by the protein divided by the energy supplied by the fat and carbohydrates—that is, protein divided by carbohydrates plus 2¼ times the fat) in human milk is about 1 to 10; it should be 1 to 8 or more in artificially-fed infants.

There are many babies who get along nicely on pure undiluted cow's milk, who develop diarrhea on diluted milk mixtures.

Do not forget that pure noninfected casein is not usually irritating to the mucous membrane of the intestines; on the contrary, casein favors constipation.

It is now believed that the fat of cow's milk causes the most digestive difficulties and not casein, yet the infant should learn to assimilate 3 or 4 percent of fat.

A good food is top milk (10 percent) and dilute this with whey (1 to 6 or 8). Remember that, since whey contains 4½ percent of sugar, less sugar should be added; 2 percent of sugar is usually added to whey mixtures.

Remember that the use of cereal decoctions as a diluent for milk is often advantageous. The decoction made from roasted flour is very palatable and easily digested. It will be found more serviceable than other cereal decoctions. Dextrinizing by heat is preferable to the use of ferments, since the former product is more palatable and less liable to spoil.

Remember that albumen water (white of an egg

to 12 ounces of water) is very serviceable in vomiting; occasionally egg albumen causes severe toxic symptoms.

Peptonized milk in any form should be used for a short time only. The baby must be taught as soon as possible to digest its own food. Prolonged use of peptonized milk favors faulty digestion and rickets.

Remember that the "materna graduate" method may be recommended to mothers who can not follow the rules of a written formula. (Personally, I have found written rules and plain milk or top milk entirely satisfactory and easily carried out.)

Remember that elementary principles of arithmetic are more serviceable and less laborious than some formulæ that some one has devised for the purpose of modifying milk according to the percentage method.

Physicians who have not the time nor inclination to calculate special formulæ can use the Deming percentage milk modifier with satisfaction.

If you are not familiar with these primary arithmetical principles, a formula (like Baner's) will not help you. Any one who understands how to calculate interest at 5 percent knows sufficient to calculate the proportions required to make a 2-percent mixture.

If you are not familiar with the steps to calculate required amounts to mix any desired percentage to any necessary quantity, a few hours' practice will make you adept in this work. Sit down with paper

and pencil and work it out. Use only elementary arithmetical rules.

When feeding a baby, know the composition of the food it is taking today; it will assist in prescribing the food tomorrow.

A good rule to remember the approximate amount at each feeding is as follows:

At birth	1 ounce.
6 months	6 ounces.
9 months	12 ounces.

That is, during the first six months the infant has his food increased by one ounce a month; during the second half of the first year he should get an increase of one-half ounce each month.

The rule as to the number of feedings may also be made very simple:

First week	10 feedings.
6 months	7 feedings.
12 months	5 feedings.

Keep in mind the number of feedings the infant should receive and divide the day in intervals of feedings accordingly.

Remember that an infant during the first two or three months takes one-fifth of its own weight of mother's milk daily. The proportionate quantity gradually diminishes until at the end of the first year it takes only one-seventh or one-eighth of its own weight daily. As the calories in an ounce of mother's milk are much more than in diluted cow's milk, it is obvious that in diluting milk too much the

infant must take as high as one-third of its own weight daily. It is common to see a baby weighing eight pounds taking as high as thirty ounces of diluted condensed milk.

Do not forget skimmed milk in many cases of indigestion characterized by vomiting and small curds of fatty acids and the salts of fatty acids in the stools.

The fermented milks are sometimes very serviceable. Buttermilk, raw or pasteurized, will often be digested and absorbed when other milk mixtures fail. It can be diluted the same as fresh milk.

Remember that koumiss and kephyr have saved lives. The carbon dioxid which these fermented milks contain quiets an irritable stomach and promotes absorption.

It is wise to be familiar with at least three forms of condensed milk—condensed milk which is preserved by the addition of cane sugar, that form which has little or no sugar added, and finally the product which contains considerable cream.

Remember that the malted milks especially predispose to scurvy in infants. These foods are indicated in some forms of gastric indigestion and also in certain cases of proteid putrefaction in the intestinal canal, when the stools are very foul in odor and the general symptoms are slight; the excess of maltose in the food usually induces an acidity of the intestinal contents and thereby inhibits putrefaction.

Malted milk is frequently serviceable in the constipation of infants. Maltose is somewhat laxative.

The use of the proprietary foods as adjuvants to cow's milk is not irrational when it is remembered that most of them are composed of dextrinized flours, to which some sugar may have been added.

Do not forget that, whatever canned, powdered, condensed, or other stale food is used, the infant must not be fed on this too long without adding some fresh food in the form of milk, meat juice, or fruit juice. If milk does not agree or is contraindicated, and some food is given as soon as possible, add a little fresh milk to this food; gradually increase the amount of fresh milk and diminish the food. Whether using condensed milk, or any other food, it is not as necessary to add cream as to add a little fresh milk. When an infant is fed on condensed milk, after one or two months add a little fresh clean milk; gradually increase the fresh milk (use top milk) and get the baby on a rational milk mixture.

It is a good rule to adhere to some modification of cow's milk, even if the infant does not gain in weight at once, unless the milk causes toxic symptoms. There are some infants who can never digest cow's milk; gruels, whey, meat juice, broths, and eggs must then be given.

MIXED FEEDING OF INFANTS.

This subject should be remembered under two heads: artificial feeding as an adjuvant to maternal

nursing, and human milk as an adjuvant to artificial foods.

The indications for the use of artificial food as an auxiliary to human milk are several:

The mother's milk is often deficient in quantity. Three-fourths of the mothers, at least among the wealthier classes, do not have sufficient milk for their offspring. The gradual increase which should take place as the period of lactation advances, fails, and after a few weeks the mother can not satisfy the infant. The bottle must be given in addition—at first possibly once daily immediately after a nursing, then two or three times daily. But whatever food is used to supply the deficiency, the mother should continue to nurse the baby regularly, otherwise the milk secretion steadily diminishes.

Sometimes the milk diminishes in solid constituents. When an infant at five to eight months becomes anemic, does not gain in weight, and shows signs of rickets, the milk should be examined. If greatly deficient in proteids and fat, additional feeding must be used. Good results may be obtained by giving some cow's milk daily.

Again, it is common for the mother's milk to be too rich in solid constituents, so that colic on the part of the infant results. Excessive proteids is the most common cause of colic in breast-fed infants. Why this is so is not clear. In many such conditions the administration of some dextrinized cereal decoction, condensed milk, or some patent food, be-

fore nursing has a happy effect. The artificial food dilutes the breast milk and the carbohydrates inhibit the decomposition of proteids.

Sometimes human milk causes diarrhea in the infant. It is well known that colostrum has a laxative effect. Occasionally diarrhea supervenes soon after birth and persists for a long time. In many cases, no doubt, some gastroenteric infection has taken place, but in others the milk has decided laxative properties. In this condition, again, an addition of some other food ameliorates the symptoms.

Constipation in the breast-fed infant is exceedingly common, and can often be relieved by giving some rich milk or malted milk as an adjuvant.

Remember that in severe cases of marasmus, when the child is about to die of starvation, some mother's milk should be obtained; even a few ounces given daily often changes entirely the serious nature of the illness. A friend or neighbor may milk a few ounces of breast-milk into a glass, which milk is then given to the sick baby and often succeeds in saving a life.

Do not forget that in a few serious nutritive diseases some human milk must be obtained. Surely there is some one who will furnish it.

Other uses for a little mother's milk will be found in that period following ileocolitis when digestion is very feeble, in tetany with dangerous laryngospasm, and in severe cases of scurvy.

OTHER RULES FOR FEEDING INFANTS.

In adapting a food to the needs of an infant, be sure to make a diagnosis of the condition of the latter; separate carefully simple indigestion from the inflammatory diarrheas. Many cases of follicular enteritis are mistaken for simple indigestion. A simple indigestion will improve in a few days; it may take many months to cure a follicular enteritis.

A slight excess of casein in the food is not harmful; in fact, it serves as a constant stimulus for a greater supply of the digestive juices. You can not train the infant to digest more without giving more to digest.

It can not be too frequently repeated that success in infant feeding depends primarily on obtaining a fresh, clean milk. Bacteria and bacterial products are not good foods for infants.

The healthiest and strongest children are usually those who begin rather early on a generous diet. When the child is one year old, additional foods should be added to the list. The cereals are first to be considered. Wheat, oats, rice, and barley form the substances of good, growing foods. Bread should be given as soon as it can be digested. Beginning with bread crumbs and broths, and toasted bread and milk, the child should be taught to eat bread and butter, bread and jelly, etc. Egg is superior as a tissue food for the growing child.

Do not forget that the child must have plenty of

carbohydrates and fat; often too much proteids are given.

The starches in potatoes are valuable foods. Give baked potatoes early—as soon as the child can digest them—from the twelfth to the fourteenth month.

There is no scientific reason for believing that the fat of pork in small quantities is any more harmful than butter; consequently, a little "shortening" in biscuits should not serve as a reason for rejecting stale biscuits for children after the eighteenth month.

Remember that certain vegetables and fruits should be given children after the first year. In this class may be placed oranges, baked or scraped apples, and peach juice. Spinach, cauliflower, and asparagus are wholesome. There is no good reason to exclude lettuce; if it is not digested, it does no harm. A certain amount of indigestible cellulose prevents constipation and is usually harmless. Cellulose, when in large quantities, may be irritating, but not in the small amount contained in potatoes or lettuce.

In giving any new article of food to an infant, care should be taken to give it in minimal quantities. A gradual adaptation of the digestive organs to the new food should be allowed.

Foods should be made palatable, even to children.

Fried, crisp bacon is a good source of fat, and may be tried where butter is not digested.

FEEDING THE SICK.

The first rule in the therapeutics of infancy is to determine the exact nutritive condition of the patient and correct any fault in the alimentation. Thus, the presence of any nervous disease—whether convulsive, hypertonic, or paralytic—demands that the nutrition receive careful attention. Again, in any acute infectious disease the discovery of faulty nutritive conditions necessitates a cautious change in the diet.

Do not be misled by the oft-repeated statement that the infant's diet can not be changed in any acute disease. While it is true that a radical change may be disastrous, a slight change in the way of improvement can do no harm and may do much good. If a baby has been fed on condensed milk for a prolonged period, the addition of a little fresh milk to each feeding will overcome the deficiency of the former food.

A few principles concerning the relative value of different foods should be remembered, and these rules should be constantly utilized at the bedside. The theory that almost all acute and chronic infectious diseases are cured by certain physiologic processes, which are classified under the general name of immunity and have been found to be a cellular activity in producing antibodies, suggests the basic truth that all organs must be properly developed and properly fed if they are expected to do their maximal work.

If through faulty feeding certain cells of the body have been imperfectly developed, and the fluids of the body do not contain the proper elements to supply their functional needs, an imperfect activity is to be expected when they are called upon to perform extra work.

Hence it should be remembered, first, that human milk has greater immunity-giving properties than any other food. These attributes should be used therapeutically. If in any given case the disease is serious and the nutritive history bad, get a little human milk and administer it with the artificial food. A few ounces of mother's milk given daily may be more important than drugs.

The food next to be considered in immunity-giving qualities is fresh, clean, uninfected cow's milk, unchanged by pasteurization or peptonization. Even a teaspoonful of fresh cow's milk given several times a day may be more important than the administration of drugs.

Always remember that the digestive processes in the severe diseases are at a low working order; hence do not overfeed.

Excessive carbohydrates and fats may lead to acute abdominal distention; do not overfeed.

Do not depend on the immunity-giving quality of the commercial peptones and albuminoses; their qualities in this direction are feeble. A small amount of the yolk of egg given daily is probably superior to lecithin and nucleoalbumins.

Remember that condensed milk, malted milk, and the desiccated foods of various kinds have all shown a deficiency in the immunity-giving properties among other defects, and that when a child has been fed on foods lacking the full nutritive qualities it should be given a small amount of human milk or fresh cow's milk during the course of any disease.

In all babies showing any nutritive disturbance, change the faulty food. This can best be done by the addition of small quantities of fresh cow's milk, or whey, gradually added to the food which the child is taking.

Remember in any disease of childhood, in which errors in diet are discovered and a tendency to anemia is noticeable, to give some fresh fruit juice; a tendency to scurvy weakens the resistance of the child.

Pasteurization and sterilization denaturalize milk and take from it the immunity-producing qualities.

While good nutrition favors a healthy resistance to disease, it must not be forgotten that forcible feeding during severe infectious diseases not only does not accomplish what we desire, since the powers of assimilation are defective, but also may lead to gastroenteric disturbance, a very undesirable complication of any infectious disease.

It is a good plan, whenever possible, to cater to the appetite of the little patient. We should not always measure the food by its theoretical digestibility, but rather by the pleasure that eating it gives to the child.

Unless specially indicated, as in some cases of vomiting, it is not a good rule to give the child food too often. Five or six times a day is sufficient.

As a rule, fats, except in moderate amounts, are contraindicated in febrile and wasting diseases, since they are liable to produce enterogenic and intermediary acidosis.

Protein and carbohydrates, the latter, except in the case of very young infants, in the form of both starch and sugar, are the principal food elements which need attention in the sick. Casein is the most valuable, but can not always be given. Its place must be taken by the egg albumen and meat juice in many cases.

Wheat flour and cane sugar can not be improved upon for furnishing the basis of the carbohydrates. Young infants should receive milk sugar and a minimum quantity of starch.

(See Gastroenteric Diseases, page 182.)

PART IV.

GOLDEN RULES OF TREATMENT.

GENERAL THERAPEUTICS.

Do not give a purgative in every acute infectious disease as the initial treatment. Ascertain first if it is indicated.

There is no therapeutic agent which is perfectly harmless in all cases. All healing efforts require the most careful circumspection.

Drugs have only a secondary place in the therapeutics of children, but when they are clearly indicated they should be prescribed.

Light and fresh air are probably the most powerful therapeutic agents we have. Do not think that a little cool breeze playing over a patient with fever is harmful.

Do not be so afraid of taking "cold." Stuffy rooms and too much clothing predispose to "colds."

Remember that most diseases of childhood are favorably influenced by the use of hydrotherapy. The pediatrist must thoroughly grasp the technic of the many ways of using water externally and internally.

The scientific use of water is the most essential part of general therapy in infancy.

Teach the baby good habits from the beginning. Do not be afraid of a little firmness in your orders.

Study the various forms of physical therapy as applied to children. Most cases of general debility and anemia can be very much improved by graduated exercises and gymnastic movements.

A change of climate or a change of residence is one of the most powerful roborants that is known. A trip into the country or to the seashore—or, in the case of those who live in the country, a change of air, even a short distance—often makes a tremendous difference in nutrition.

Avoid all unnecessary medication in infants and children; study the effect of physical therapy.

The best antipyretic is the cold pack or cold bath; coal tar antipyretics are very useful, but they should not be continued for too long a time.

The wet pack, hot or cold, is the most readily used; but the full bath can be even more advantageously employed.

There are some children, it should be remembered, who do not react to cold water very well, whose circulation in the skin is very poor in every fever, and who have very high temperatures on slight causes; in those antipyresis is often fraught with difficulty. Warm baths are sometimes successful.

It is a mistake to give an antipyretic regularly every three hours; give one good dose when the fever is very high, not more than twice a day. It will do most good in this way. Do not continue coal-tar antipyretics for more than two days in any prolonged fever.

Remember that coal-tar antipyretics not only depress the heart, but their continual administration in some way interferes with those processes which overcome infection.

Children must receive an antipyretic in larger doses relatively than the adult in order to produce the same antipyretic effect.

Do not insist on antipyretic measures in every fever; a moderate fever seems to be part of the body's means of ridding itself of an infection. If the child seems fairly comfortable with a temperature of 103°, let it alone.

Remember that tea and coffee are the best stimulants for infants and children; a weak infusion of the former can be given to young infants and may form the vehicle for the administration of foods.

Do not forget camphor when trying to find a good stimulant. It can be given in an oily emulsion, and is very serviceable in the respiratory and alimentary infections.

Never give an opiate to a newly-born infant. It may cause fatal cyanosis.

Do not hesitate to give opium (paregoric, codein) to infants after a few weeks old if they really need it. Opium is a valuable remedy, even in children, but must not be abused.

Never prescribe opium to be given every two or three hours; it is safer to give one or two doses, and then discontinue its administration until these doses are entirely excreted.

Remember that chloral hydrate still remains the most effective hypnotic for infants, and, as far as these drugs have been studied, the safest.

Alcohol is a safe and effective hypnotic in many of the infectious diseases.

Belladonna is well tolerated by infants and children, but it is too poisonous a drug to be used in the infectious diseases as an antispasmodic, except possibly to relieve the severe paroxysms of coughing in pertussis.

Do not forget the mustard bath in bronchopneumonia and in many forms of failure of the circulation. It is a most powerful means of increasing the blood in the skin and diminishing its volume in the internal organs.

Remember the dermic method of administering drugs in infants. Guaiacol is more effective on the skin than when given internally. Applied pure to the skin (1 to 4 drops), it is a good antipyretic; diluted with lard or wool fat, it forms an effective external application in chest diseases; it can be used also in this form over local inflammations, such as boils and enlarged glands. Other drugs which can be used externally with good success are the essential oils, mesotan, etc.

It is useless to apply quinin externally, for it is not absorbed; even by the rectum its absorption is very imperfect. Give it hypodermatically if it must be given and if the stomach will not tolerate its presence.

Quinin is useful in many infectious diseases besides malaria, but it readily induces vomiting in infants.

Remember that the subcutaneous injection of physiological salt solution is very useful in hemorrhage and cholera infantum; but a rectal administration of a salt solution is often serviceable in diseases where the quantity of blood is lessened. An increased blood pressure may be obtained by its use. The subcutaneous injection of salt solution is a good remedy in some very severe emergencies, but harm may be done by using too much. It has been recently recommended also for supplying the needed sodium chlorid in pneumonia.

Remember that giving highly salted broths and cereal decoctions favors the appearance of anasarca in infants suffering from malnutrition. Salt is not an entirely harmless chemical.

Massage is especially useful in constipation; this method may be used to increase the peripheral circulation and the flow of lymph in diseases of nutrition.

Remember that the excitable nervous system of infants often needs calmatives. Asafetida and the bromids can be safely used.

Strong intestinal antiseptics do little good and may do much harm. Even calomel is an intestinal irritant.

It is good practice to spoil the sick child.

Psychical therapeutics should not be forgotten when treating children. To keep that state of mind

which is the least worried and the most hopeful is good pediatrics.

THE NEWLY-BORN.

Be sure to let a caput succedaneum and cephalhematoma alone. No applications are needed.

Icterus needs no treatment, and nothing can be done for the cyanosis depending on cardiac deformity.

Do not forget that food and water are indicated if the temperature of the newly-born rises.

Do not forget that an operation may relieve the baby of cerebral hemorrhage and prevent subsequent incurable paralysis.

Remember to do no harm in ophthalmia; use ice-cold compresses; keep the eyes clean, and use a non-irritating solution of argyrol (5 percent) twice a day.

The sepsis of the newly-born can best be treated by careful feeding and good nursing.

If hemorrhages occur, give calcium lactate internally; its administration should not be continued over thirty-six hours. Adrenalin hypodermatically is sometimes effective.

The subcutaneous injection of fresh human serum, taken from a healthy person, is the best treatment for the hemorrhagic disease of the newly-born.

Do not purge the newly-born infant without substantial reasons.

Medicines are almost never used in the diseases of the newly-born, except mild stimulants.

Beware of the contagiousness of pemphigus bullæ. Do not let the serum escape on the sound skin. Disinfect each pustule after it is open with a 70-percent solution of alcohol.

Do not rub or squeeze the breasts in mastitis of the newly-born. Let them alone or use some cooling lotions. Camphor diminishes the activity of the glands.

Do not wean the infant from the breast on account of colic; improve the nutrition of the mother. Babies usually thrive in spite of colic.

In the **acute intestinal indigestion** of young breast-fed infants, with irritating stools, magnesia can often be given with great benefit.

Remember that overfeeding is the most common cause of the diarrhea in the newly-born.

DISEASES OF THE MOUTH.

Do not forget that potassium chlorate internally and locally is a specific for ulcerative stomatitis and Vincent's angina.

The glyceritum boroglycerid is more effective in thrush than a watery solution of boric acid.

Instruct the mother not to rub the mucous membrane in applying antiseptics to the mouth. The cotton soaked in antiseptic solution should be laid on the affected part and held there for a few moments.

The geographical tongue needs no treatment; it usually disappears spontaneously in later life.

Remember that the gum over a tooth which is struggling to appear in the mouth occasionally needs lancing. A deep cut in the mucous membrane favors a local infection; hence do not lance the gum too early.

Discourage the common practice of rubbing the mucous membrane of the gum with a thimble; the bruised tissue becomes the nidus for infection.

Simple ulcers of the mouth readily heal after cauterization with a strong solution of silver nitrate.

Methylene blue applied locally in cases of noma has been found curative. A 5-percent solution should be used.

Do not fail to cleanse the mouth two or three times a day in all septic diseases of children.

Remember that a long frenum of the tongue does not prevent the infant from nursing, or later in life from talking; it is well, however, to cut the tongue-tie before the lower incisors appear, as their presence makes the operation more difficult.

It is well to warn mothers that ulcers at the roof of the mouth are often caused by giving the food too hot.

Do not fail to have the teeth of children kept in good repair; bad nutritive conditions may depend on bad teeth.

Perleche needs cauterization, followed by the application of a protecting ointment.

Herpes of the lips is sometimes relieved by the use of an antiseptic solution.

THE NECK AND SCALP.

No treatment is required for hematoma of the sternocleidomastoid in the newly-born; let it alone.

Do not believe that every chronically enlarged gland is tuberculous. In many children a gland infected by a pyogenic coccus requires many weeks to heal.

Hot fomentations are most effective in spasmodic torticollis.

Do not apply irritating ointments to seborrhea of the scalp in young infants; a mild antiseptic wash is preferable.

Do not operate too soon in cervical abscesses unless septic symptoms are very severe. Allow the abscess to be walled off thoroughly before making the skin incision.

Tuberculous adenitis may recover under hygienic and medicinal treatment. Small doses of tuberculin may be tried.

Angina Ludovici should be treated by early incision. Combat the septic symptoms by stimulants and hydrotherapy.

THE THROAT.

Gargles and local applications to the throat do little good, and may do much harm in the faucial inflammations of young children. The practitioner can usually get along without them.

Do not be worried if you do not succeed in puncturing a peritonsillar abscess at the first trial. Most

physicians must try repeatedly, and then most of these abscesses break without surgical aid.

Do not wait too long in the adenoids of children before advising operation.

Learn to operate for adenoid vegetations; its technic is simple and the operation is usually followed by brilliant results.

Remember that patients with hypertrophied lymphatic structure stand general anesthesia poorly. Let the general anesthesia be short. Learn to operate quickly, but thoroughly.

Nitrous oxid gas is probably the best anesthetic for the operation of adenoids. Ether is the next to be selected.

Remember that you increase the dangers of the operation by using a general anesthetic. Young and robust children can be held in an erect position by the father, and the operation can be quickly done without an anesthetic.

Remember that fatal hemorrhage has occurred as a result of excision of adenoids or tonsils.

Always be prepared to cope with hemorrhage.

Remember that acute follicular tonsillitis is a self-limited disease, which gets well under any kind of treatment.

Hypertrophy of the tonsils is only satisfactorily treated by cutting them out. Local applications are rarely successful in reducing their size.

The syrup of ferrous iodid has a big reputation as a healing remedy in the hyperplasia of lymphoid

structures; but do not expect too much from its administration.

Remember that Vincent's angina is best treated with potassium chlorate, while diphtheria needs antitoxin.

Post-pharyngeal abscess occurs most frequently in infants, and needs surgical intervention.

Herpetic stomatopharyngitis is a self-limited disease. Sodium salicylate given internally hastens the recovery.

Remember that pilocarpin given internally is a very useful remedy in all exudative inflammations of the throat.

Painting the throat with a solution of argyrol or protargol is useful in the septic anginas of children.

Nine out of ten foreign bodies swallowed by children pass through the alimentary canal without causing any disturbance; objects small enough to go through the esophagus are not likely to cause intestinal obstruction.

Rarely an **elongated uvula** needs amputation.

Paralysis of the palate following diphtheria needs no special medication.

THE RESPIRATORY ORGANS.

Most diseases of the respiratory organs are due to infections.

Remember that all "colds" are contagious, and that children more often catch a "cold" from others who have the disease than from exposure.

Keep the newly-born baby away from other people having bad "colds." What is only a tracheitis in the older child may become a suffocative bronchiolitis in the newly-born.

Ordinary "colds" are caught just the same as measles. To avoid "colds," keep the child warm, keep it outdoors, and keep it away from people who have "colds." Birthday parties are disseminators of bad "colds" as well as whooping-cough and measles.

It is a curious fact that the contagiousness of "colds" so readily obvious on the most superficial observation has not been recognized until very recently; at least very little reference is found to this fact. Excepting a slight irritation of the mucous membrane which the inhalation of cold air produces, or the chilliness and heaviness following an exposure, the effects of cold are very uncertain, except that it lowers the resistance of the child. Coryza, laryngitis, catarrhal croup, bronchitis, bronchopneumonia, and even croupous pneumonia are almost always caused by an infection contracted from some one else who has a similar disease.

Do not make cold the principal etiological factor in the diseases of children. Search for other causes.

Regard all acute inflammatory diseases of the respiratory tract as contagious. Spasmodic asthma is the only exception.

The resistance of a child to "colds" may be enhanced by good clothing, good nutrition, and out-

door life. Phosphorus compounds seem to assist in producing a greater immunity; codliver oil is helpful at times.

It is still unproven that the cold bath given in the morning causes a lessened susceptibility to "colds." This measure may be tried in suitable cases. It does not compare in value with several hours outdoors every day, rain or shine.

Colds run a definite course, just as other infectious diseases, and it is doubtful that ordinary therapeutic means succeed in aborting them in children.

Do not be worried because your case of simple bronchitis has become a bronchopneumonia in spite of active treatment. This experience happens to the best pediatrists.

These diseases usually recover promptly when the bronchial secretions are well established. The mucus and leucocytes remove the pathogenic germs.

It is still not proven that ammonium chlorid increases the transudation of leucocytes; hence its expectorant effect is doubtful.

Remember that quinin should not be given when the infection involves the post-nasal space. It seems to predispose to infection of the Eustachian tube and subsequently of the middle ear.

It is worth while to remind you that quinin is still the best internal remedy in bronchitis, laryngitis, pharyngitis, coryza, and even bronchopneumonia at the beginning of the disease. If a few doses do not bring marked improvement, discontinue the drug and treat symptomatically.

Another remedy of distinct value in all infections of the respiratory tube is guaiacol carbonate or creosote.

Remember that camphor has a stimulant effect on the mucous membrane and is a good stimulant to the heart.

When in doubt in some acute respiratory disease, give camphor; 1 to 3 drops of spirits of camphor in milk is an easy way to give it.

Veratrum viride given for a short time is of distinct value in all acute inflammations of the respiratory passages from the larynx to the pleura. Do not be afraid of it; as Dr. Saunders states, it is life saving.

Do not give too many drugs; give nauseating expectorants only when absolutely necessary. Do not be afraid of opium if the child really needs it. The treatment in almost all cases of respiratory diseases is symptomatic.

Do not worry about the temperature in pneumonia unless it is persistently over 104°. Cold baths are rarely beneficial; packs may occasionally be used. Warm—or, better, hot—baths help the peripheral circulation just as much.

Never give an ice bath in pneumonia. Do not worry the patient with too much bathing.

Do not use a heavy poultice on the chest of the infant. A soothing emollient may be helpful at times. Guaiacol diluted with lard makes an excellent external application.

The first rule in the treatment of pneumonia is to give the patient fresh, pure, and cool air.

There is still great difference of opinion whether guaiacol, quinin, or camphor is most useful in pneumonia.

Let the patient rest and sleep. Keep out the visitors. Give the patient water.

Remember to supervise the feeding in pneumonia very carefully. Too little food gives insufficient strength to resist the disease; it leads to exhaustion and collapse. Too much food induces vomiting and tympanites—very ugly complications in the pneumonia of children. Watch the food supply; bad milk must not be tolerated.

Constantly watch for the occurrence of pleurisy, with serous or purulent effusion, in all severe diseases of the lung.

Never give a bad prognosis in the pneumonia of children, unless all lobes of the lung are implicated, or unless the nutritive history has been very bad and septic symptoms very severe.

Children apparently dying have gotten well. The last physician who attends gets the credit. The crisis is very uncertain, yet it may come at any time; watch for it; keep the patient alive until it comes.

The best stimulants in pneumonia are digitalis and camphor. Do not give strychnin. Caffein is very useful at times. Alcohol is still given in the severe septic cases.

A croup kettle is a valuable therapeutic agent in a sick room, but it is not essential.

Remember that spasmodic croup is most commonly due to an infection of the larynx. It gets well spontaneously; meanwhile relieve symptoms and prevent the nervous spasms of the laryngeal muscles. Antipyrin and veratrum viride are most valuable for this purpose. Inhalations are useful.

Do not forget that the iodids have a great reputation in croup or laryngeal stenosis—nondiphtheritic.

Remember that there is no specific for influenza; that our treatment is purely symptomatic. Do no harm.

A tuberculous consolidation may exist for many years in children without causing any severe symptoms. Treat tuberculosis in children by careful attention to diet, and keep the patient out of doors practically day and night. Isolate him from those suffering from diseases of the air passages.

Secondary respiratory infections in the tuberculous child often assume very severe manifestations. One of the most important tasks is to avoid these secondary infections (grippal, pneumococcal).

Salicylic acid is very useful in acute, serous, or fibrinous pleurisy.

A serous pleural effusion is usually promptly absorbed and rarely needs aspiration. A purulent effusion needs prompt surgical interference; do not wait too long with the operation.

It is **very questionable** whether oxygen inhalations have ever changed the prognosis in any case of pneumonia, but they do no harm.

Inhalations are ofttimes very useful in bronchitis, pertussis, and bronchiectasis, but do not expect more than to relieve the symptoms.

Do not be afraid of small doses of opium in children. For that irritative cough of bronchitis in nervous children some mild opium preparation is often very necessary.

Remember that an ice bag in the early stage or hot-water bag later very much diminishes the pain in pleurisy; do not use blisters.

GASTROENTERIC DISEASES.

Gastroenteric diseases in infants are best avoided by cleanliness and freshness of the milk, and by not feeding too much.

Remember that the treatment of these diseases consists chiefly in the adjustment of the diet. Who does this well, probably does all that is necessary in most cases.

In all acute indigestions starvation for a few hours or one day, and the subsequent administration of a minimal quantity of food, is the best treatment.

Never continue the same quantity of food if the stools become frequent and loose. Stop the food or diminish the quantity according to the urgency of the symptoms.

The first thing to do when dyspeptic symptoms arise is to diminish the quantity of milk.

Lessening the percentage of fat in the food is the most effective means of removing the dyspeptic symptoms.

Clinical experience has taught that fat is the most common cause of indigestion. Its percentage should be reduced when curds appear in the stool.

Do not forget that an excess of sugar may produce diarrhea. Maltose especially has a tendency to produce liquid irritating stools.

Carbohydrates in the form of starch or dextrin have as a rule a constipating effect, because they inhibit the digestion of fat; the fat becomes converted into soaps, which produce a hard and dry stool.

The dyspepsia which is accompanied by hard, dry stools should be treated by reducing the fat and increasing the sugar in the food.

Citrate of soda, one grain to each ounce of whole milk used, may be added to the milk with benefit in many cases of indigestion.

Many infants who do not thrive are benefited by the addition of dextrinized gruels to the milk.

Never fail to discontinue all milk diet in acute gastritis and all forms of gastroenteric infection. The milk can not be digested and acts as a culture medium for toxicogenic bacteria.

On the other hand, do not starve the infant too long in ileocolitis; milk in small quantities can be added to the cereal decoctions in increasing amounts as it is tolerated. The disease is protracted, and some food is necessary.

Barley water or rice water are the favorite foods to be given when the milk is discontinued. Toast water, roasted flour water, arrow-root water, and

many others are equally serviceable. Suit the taste of the infant. A weak infusion of tea is becoming popular.

As a rule, sugar should be added to these cereal decoctions; in severe intoxications, however, sugar should not be used for one or two days.

In a very **irritable stomach,** albumen water or toast water are well borne.

Severe vomiting should be treated by resting the stomach. This is better than medicines.

Minute doses of phenol or chloroform well diluted have a soothing effect. Use milk of magnesia as an antacid.

Do not expect to cure a diarrhea with drugs and continue to overfeed the baby.

Remember many forms of diarrhea are kept up indefinitely by animal broths and cereal decoctions, which rapidly improve when pure skim-milk is given.

Never fail to cleanse the stomach and bowels as soon as possible after gastroenteric infection. Washing out the rectum and stomach is not always practicable; consequently reliance must be placed in a brisk purgative—calomel, castor oil, or magnesia.

Remember that all severe infections of the alimentary canal require time and patience to cure.

Acute food intoxication is best treated by starvation. Do not give sugar in this condition.

Never be in a hurry to cure ileocolitis. Be cautious; sustain life by a little food and not much medicine.

Do not forget weak tea as a diluting fluid for sugar, condensed milk, or skim milk in gastroenteric diseases. It is stimulating and soothing.

Hot, weak tea may stay on the stomach when everything else fails.

Remember that the carbonated waters—soda water, Apollinaris—are soothing to an inflamed stomach. Often they are retained when other things are rejected.

Remember that aromatic syrup of rhubarb is about all the medicine that is needed in simple diarrhea. Bismuth is often useful, but it does not cure an ileocolitis.

Do not give opium in any case of gastroenteric infection if septic symptoms are present. It is indicated, however, in the severe pains of dysentery.

When all septic symptoms have subsided, and the child is having many loose, watery stools from an irritated bowel, opium can be given.

Do not forget to check the tremendous transudation of serum in cholera infantum by giving a hypodermatic injection of morphin and atropin. Then give water by the stomach and rectum. Give no food for twenty-four hours—only water.

Remember that astringents are rarely necessary in simple diarrhea if the child is not overfed.

Do not forget that we are still looking for a specific antidysenteric serum.

It is probably useless to add antiseptics to the water used for intestinal irrigation. Use the physio-

logical salt solution or a decoction of starch or flax seed. In ileocolitis, enteroclysis renders good service.

In febrile enterocolitis, cool (70° F.) applications of water to the abdomen will be found useful.

Remember that enterocolitis is caused by an infection, and it is the immunity-producing power of the body which cures the disease; this takes time. Do all you can to keep the patient alive, and do no harm.

It is heat that predisposes to summer complaint; therefore keep the baby cool.

Broths should always be mixed with rice or barley water.

It has never been demonstrated that so-called intestinal antiseptics are really beneficial, except in rare cases. Any antiseptic which really kills or inhibits the growth of germs is irritating to the mucous membrane. The most effective germicides are the natural secretions of the alimentary organs.

Remember that, while a hundred antiseptics have been prepared for disinfection of the alimentary canal, not a single one receives the unqualified indorsement of two or more pediatrists.

It is worse than useless to attempt to kill intestinal bacteria with antiseptics and at the same time feed them with milk.

The golden rule in all gastroenteric infections is: cleanse the alimentary canal and do not feed the child for a day. Use hydrotherapy for fever, opium for pain, chloral for insomnia, and stimulants for prostration.

Remember that cereals are the most reliable foods for infants who are sick with inflammatory diarrhea.

Some authorities recommend condensed milk to be added to the cereal decoctions in protracted cases.

Some infants remain sensitive to the harmful effects of cow's milk for many weeks after an attack of gastroenteric intoxication. Cow's milk should be added to the alimentation with great caution.

A few doses of bismuth subnitrate are indicated in the milder forms of diarrhea.

In all chronic digestive disorders the first indication is to cleanse the alimentary canal and give some harmless food for a day or two to starve out some of the bacteria.

Then commence the feeding by some rational food in minimal quantities. For a short period give the infant only sufficient food upon which it can exist. Watch the stools and the appetite; as soon as the baby seems hungry and the appearance of the passages suggest that what food is given is absorbed, then the food can be increased.

In the majority of cases fresh milk in minimal quantities given to a marasmic baby will most likely succeed. Mixing it with some cereal decoction is often useful; occasionally it will have to be peptonized.

It should not be forgotten that most cases of chronic indigestion in infants depend on some infection, or at least upon the injury to the digestive organs from the infectious process. Often it requires

considerable time for the reparation of these injuries, and during this time the growth of the infant may be at a standstill or the loss in weight may continue.

Do no harm by overfeeding or giving drugs; keep the babies under good hygienic surroundings, and most of them afflicted with chronic gastroenteric diseases will get well.

Be sure to give foods that are not coagulated by rennet in the pyloric stenosis of infants. A small coagulum may choke up the narrowed opening. Give whey, completely peptonized milk, or Eskay's food (without milk).

Keep the baby alive in pyloric stenosis, and keep feeding the baby. The tightened sphincter will slowly atrophy and the gastric wall will become hypertrophied. A normal adjustment will come sooner or later. Use rectal feeding and careful gastric feeding. Lavage is very beneficial.

Separate carefully the gastroduodenitis, characterized by vomiting and followed by catarrhal jaundice, from ordinary infections from milk. This probably has a different cause and requires little treatment; give rest to the stomach and duodenum.

Remember that a little human milk given in the bottle will save many young babies from acute inanition after some acute gastroenteric disorder.

Human milk may do harm in the acute stage of gastroenteric intoxication.

Do not give calomel and magnesium salts in catarrhal jaundice. These drugs irritate the inflamed

duodenal mucous membrane and do not shorten the inflammatory stage.

Be sure to recognize an intussusception promptly. Use a small dose of opium and belladonna. Give no food and wait a few hours only. If symptoms are severe, do not wait, but get ready for operation. Do not use rectal injections until you are ready to operate. Many small intussusceptions reduce themselves by rest, belladonna and opium, and absence of food.

Appendicitis is treated by absolute rest, cold to the right iliac region, small doses of opium, and absolute abstention of food until the severe symptoms subside. Cases with very violent onset should be operated upon at once. No case lasting more than twenty-four hours is made much safer by operation. If an abscess develops, a careful opening and drainage is perfectly safe. Indiscriminate operations in every case of appendicitis of children can end only in bringing operative measures into disrepute.

RICKETS AND SCURVY.

Remember that it took time for the manifestation of rickets to develop, and it will take time to produce a cure.

Phosphorus is a very poisonous substance; probably just as much good can be done in rickets by administering the phosphates or glycerophosphates.

A change of diet is always necessary in rickets. The observation that pure milk, unchanged by sterilization, given undiluted or simply diluted with a

cereal decoction, most rapidly cures rickets should be utilized in practice.

The theory that something is wrong with phosphorus metabolism in rickets suggests that phosphorized foods should be given in larger quantities to stimulate the absorption of this element; hence casein should be given in large percentage.

It is good practice to add the yolk of egg to the milk to enrich the alimentation with phosphorus; an increase in the fat is always useful.

Remember that sunshine and fresh air are as potent adjuvants to the therapy of rickets as to the administration of iron in anemia.

Exercise is an important factor in the prevention and cure of rickets.

It should be recalled that scurvy is produced by sterilized milk and patent foods. Stop these foods in the treatment of scurvy; give fresh cow's milk or whey.

The fruit juices, especially orange, are specifics in scurvy. No medicines are necessary. Give orange juice by the mouth, or, if vomited, give it by the rectum.

It is a **mistake** to regard meat juice antiscorbutic; infants have developed Barlow's disease while taking meat juice.

Digestive disorders coincident with scurvy should receive careful attention. It is sometimes very difficult to change the diet in these cases without increasing the dyspeptic symptoms.

HEART AND CIRCULATION.

Remember that we have no means to restore the shape of a shriveled valve of the heart.

In any attack of endocarditis the question is always how much will the valves be involved, and, even after the inflammation has subsided, there is the uncertainty of the valve gradually becoming distorted by scar tissue. Neither of these questions can be answered.

The best means we have of strengthening the heart is by rest in bed and attending carefully to the nutrition of the child. Digitalis should not be given continuously for many weeks. When symptoms of cardiac weakness appear—such as rapid, sighing respiration, weakness of the pulse, edema, and a dusky skin—digitalis in full doses is indicated. The drug should be discontinued when these symptoms disappear; the bitter tonics, caffein, or camphor may be employed.

Remember that exercise should commence very gradually, and should be graded according to the condition of the patient. Gradually increased exercise will strengthen the heart.

Do not permit a patient with a valvular lesion to play ball and other active games with other boys or girls. The patient must be taught to live within the capacity of his heart.

In the acute stage of noncompensation rest must be secured preferably by an opiate; there is no good reason for withdrawing meat from the diet in endo-

carditis. Protein food is necessary for the heart to grow strong.

In the very acute stage, with stormy symptoms, alcohol in some form, ammonia in some form, and the compound spirits of ether must be used to improve the circulation. Then shift to digitalis.

It should be remembered that quinin is a very good remedy in endocardial inflammations and has a quieting effect on the heart. Potassium or sodium iodid is useful in the chronic inflammation of the endocardium.

Do not forget to stop all agents which affect the circulation when the heart is in full compensation. Do not allow alcohol, coffee, or tea; these beverages disturb the heart unnecessarily.

Remember that strychnin is to be used only in emergencies to increase the irritability of the nerves.

In the acute fevers, if the circulation becomes feeble, the peripheral blood supply small, the extremities cold, and the first sound of the heart weak, stimulants are necessary. The action of stimulants is very much improved in these cases by hydrotherapy.

The cause of death in many forms of septic diseases is a failure of the vasomotor apparatus. Caffein and camphor are the best stimulants in these cases.

Remember to utilize posture in varying the blood pressure. The recumbent posture increases the blood pressure and should be used in syncope. But do not

place a child with failing cardiac force in the recumbent posture; the increase in the blood pressure may be fatal.

In all forms of cardiac weakness place the patient in the sitting or semi-recumbent posture; the blood pressure is less and the weight of the abdominal organs is away from the diaphragm.

It is necessary to look after the digestion and nutrition in all cases of cardiac disease.

Remember that the heart may be strengthened by passive motion and baths.

Watch the peripheral circulation in the septic diseases.

Septic endocarditis requires rest and the general treatment of septicemia. Do not stimulate the heart in inflammatory disease of the endocardium unless absolutely necessary.

The **endocarditis** of chorea should be considered a septic infection and treated accordingly. Anti-streptococcic serum is often helpful in septic endocarditis.

Meddlesome treatment in chronic valvular disease can not be too strongly condemned. Use dietetic and hygienic measures.

Nothing equals morphin to quiet a weakened heart laboring under excitement.

Myocarditis demands a prolonged rest in bed. The diet must be regulated to insure faultless digestion and assimilation.

THE BLOOD.

It is a singular fact that milk, both human and cow's, has an insufficient supply of iron; therefore infants kept too long exclusively on milk tend to become anemic.

It is a fact worth knowing that vegetables contain much iron. Vegetable juices and vegetable soups are, therefore, indicated in the anemias of children.

Do not forget that the administration of iron is almost useless unless the adjuvants, fresh air and sunshine, can also be employed. An anemic child is best treated by a change of air and diet. The administration of iron is secondary.

It is a mistake to suppose that inorganic iron preparations are not absorbed in children. The chlorid or citrate of iron and tartrate of iron and potassium can not be excelled. The carbonate is just as useful, yet in many cases an organic preparation of iron is preferable on account of taste or tolerance.

For certain patients the hematinic action of arsenic should be remembered; children stand this drug very well, and it has a very favorable influence.

Only temporary benefit can be given patients suffering from pernicious anemia. The so-called splenic anemia usually improves.

Do not forget that chlorosis, aside from the administration of iron, is best treated by a change of food and occupation. Look after the nutrition first.

Iron citrate may be given hypodermatically with great benefit in severe cases of anemia.

There is no certain treatment of leukemia or Hodgkin's disease.

Remember that the salts of potassium are indicated in some severe forms of spanemia.

Splenic anemia may be easily mistaken for pernicious anemia. Give a mixed diet of semi-solid food and iron citrate hypodermatically.

THE GENITOURINARY ORGANS.

Do not be alarmed if the newly-born infant does not pass urine for twenty-four to thirty-six hours. Give more water; a 3-percent solution of milk sugar is diuretic, and after a few ounces are given the bladder will become filled.

Do not give a diuretic whenever the urine diminishes in quantity after vomiting or a sudden withdrawal or refusal of fluids (as in sore mouth). The indiscriminate administration of spirits of nitrous ether sometimes upsets the stomach, and can do no good when there is no excess of water in the blood.

Suppression of urine from acute nephritis requires active treatment. Hot baths or hot packs are the first measures in order. The hot pack is to be given once or twice a day for one-half hour, and the patient then placed in a warm bed. Let the patient perspire for one hour. Promote perspiration by means of hot drinks, hot lemonade, hot chamomile tea, and sugar of milk solution.

The heart should be stimulated by digitalis, which should be combined with diuretics. Pilocarpin may be used advantageously in certain cases.

Remember that acute parenchymatous nephritis and hemorrhagic nephritis tend to heal spontaneously; meanwhile we must make up for deficient action of the kidneys by stimulating diuresis, diaphoresis, and giving a good purgative once a day.

Do not give a sodium salt as a purgative. This is often absorbed and must be excreted by the kidneys; especially is sodium chlorid harmful. Magnesium salts are best to be used as purgatives, or give jalap and rhubarb. Do not give calomel; some of it will be absorbed and irritate the inflamed kidneys.

Remember that a minimum protein diet should be given patients suffering from acute nephritis. Exclude all meats and eggs; sometimes even the casein must be removed from the milk, and whey given. In all such diseases as diphtheria and scarlet fever, which are prone to affect the kidneys, protein food should be kept at a minimum; also do not give salt in excess.

In the **hemorrhagic nephritis** following influenza it should be remembered that the blood in the urine will cease spontaneously in a few days. It is questionable whether gallic acid has any effect. Turpentine may irritate the inflamed kidney. Unless the loss of blood is very large, medication to stop the bleeding is unnecessary. Sodium benzoate is diuretic and antiseptic, and may be given in influenzal or other septic nephritis.

In the light forms of nephritis a special diet (reduce proteins to the minimum and do not permit the

foods containing oxalic acid, as rhubarb, strawberries), rest, and keeping the bowels open is about all that is needful.

The **chronic diffuse nephritis** may be dangerous, but its treatment is the same as just outlined for a mild nephritis. Chronic interstitial nephritis is rare in children.

Do not be afraid if the baby passes a few drops of a reddish fluid immediately after birth; it is the brick-red dust of uric acid and has no special significance. Give some milk-sugar water.

A **very long foreskin** should be cut off; the shorter varieties stretched and retracted. From a scientific standpoint circumcision is not indicated in every boy.

Remember that a mild catarrhal vaginitis is very common in girls suffering from nutritive disorders. Specific gonorrheal vulvovaginitis should be treated with injections of a 5-percent solution of argyrol and cleanliness. Always warn the family as to the contagiousness of the discharge.

Pyelitis and **cystitis** often yield very quickly to the internal administration of hexamethylenamine.

Salol is sometimes effective in urinary infections.

Do not give hexamethylenamine in full doses continuously for more than twenty-four hours, as it may produce irritation of the urinary tract.

Alkalies and water are indicated to cleanse the urinary tract.

Prevention of post-scarlatinal nephritis is best ac-

complished by the pilocarpin treatment and a milk diet.

Remember that most of the inflammations of the kidneys get well in childhood.

It is rarely necessary to wash out the bladder in the cystitis of infants or children. An alkaline diuretic several times a day or hexamethylenamine will assist in the cure.

The hydrocele in infants usually gets well with or without treatment, and is most commonly caused by too tight diaper.

Remember that most cases of enuresis recover gradually without any treatment. The most obstinate cases are those in neurotic children, showing at the same time a tendency to diabetes insipidus.

Do not forget that psychic treatment is most essential in the treatment of "bed-wetting." Teach the child to control its bladder. Punishments, exceptionally, have the desired effect; shaming the child is usually better; giving rewards is probably most serviceable. Mental stimulation by a change of rooms, residence, or surroundings is often efficacious.

Stimulation of the inhibitory centers by douching the spine at bedtime often cures. A shock of some kind will sometimes stop the symptoms.

Medication is proverbially uncertain in enuresis. A good dose of belladonna occasionally may stop the habit. Giving diuretics during the day, with a diminution of fluids in the evening, may stop the renal secretion at night.

After all, the treatment of enuresis, as all psychic diseases, is usually very uncertain as to the remedial measures necessary.

THE NERVOUS SYSTEM.

Do not forget that eclamptic seizures are not usually serious unless caused by some grave cerebral disease. Chloroform is the best means of quieting a convulsive seizure; search for the cause. Give a good antipyretic if the temperature is very high; control hyperpyrexia.

Epilepsy in children will improve under the most singular treatment. Bromids diminish the attacks for a time; so does attention to the diet, a change of climate, stretching the foreskin, massage of the cervical muscles, and many other means. But epilepsy is usually incurable. Tell parents not to spend a fortune on quacks.

Remember that tetany should be combated by fresh milk, fruit and vegetable juices, and some bread. The phosphates or hypophosphites are very helpful.

Be sure to change the diet of infants suffering from bad nutrition and convulsive seizures. Rickets is a common source of convulsions. Treat the rickets, and the spasms will disappear. Laryngospasm needs a dose of chloral occasionally to control the severe paroxysms.

Remember that the diseases of nutrition require time for cure. It may take three months to get rid of the irritable nervous system.

Habit spasms should be treated by careful exercises and training; chorea needs rest and arsenic.

Remember that there are severe forms of chorea which are caused by a blood infection and which may be ameliorated by an injection of antistreptococcic serum.

Do not forget that the cerebral palsies improve very slightly under any kind of treatment. The spinal paralysis becomes much better in time, although some muscles may be permanently impaired.

It is a sad fact that so many diseases of the nervous system are not amenable to treatment. Under this class the following may be placed: hydrocephalus, myotonia congenita, idiocy, imbecility, progressive muscular atrophy, pseudohypertrophic paralysis, and amaurotic family idiocy.

The spasticity of the muscles and the resulting deformities, and cerebral palsy, may be very much ameliorated by strong passive motion given several times a week.

Make every effort to prevent permanent contractures in the cerebral and spinal palsies.

Always consult an orthopedic surgeon when the deformities of cerebral or spinal palsies are noticeable.

Remember that, while the administration of thyroid extract very much improves the physical condition of cretinism, the mental state is not often made normal.

We have no means of aborting or controlling

meningeal infections. Give hypnotics for convulsions and excitement; chloral by the rectum will be found serviceable. Relieve pain by anodynes. Control the fever with antipyretics. The ice cap is not indicated in tuberculous meningitis unless severe headache is present.

In all flaccid paralyses it should be remembered that strychnin and faradism may bring about improvement, but do not expect a regeneration of spinal centers by this means. Massage is very useful.

Remember to treat all abscesses of the brain by surgical means.

In all irritative diseases of the nervous system general rest is essential.

Headaches should be cured by attention to possible causes. The curative treatment of migraine proper is very uncertain. Do not get the child accustomed to the coal-tar anodynes; chronic methemoglobinemia may follow their persistent use.

The general treatment for all chronic diseases of the nervous system is training. Whenever a certain function seems permanently disturbed, an effort should be made to have this corrected by instituting a proper regimen. This applies to backward children, stammering, bad habits, hysteria, etc.

Remember that the evil influence of example is the most difficult problem of psychotherapy. The mother who is always complaining will very likely have a daughter who has obscure pains. The irri-

table temper of parents will be sure to bring about explosions of anger in children.

Treat the children by treating the parents. It is often necessary to speak kindly, but seriously, with the father and mother who do not control themselves, but expect their children to control their own impulses.

Remember that various psychoses of hyperesthesia and irritability are often induced by permitting the child to dwell upon it. Parents should teach their children that some pain must be endured in this world, and most abnormal feelings should be forgotten. Teach the child to be indifferent to minor ills; a healthy mind is useful to a healthy body.

Do not permit an hysterical mother to rave over a minor illness of the child; it makes a wrong impression.

There is some truth in the contention that many diseases of the nervous system in children are best treated through the minds of the parents.

The nervous baby needs gentle discipline; proper training will often accomplish wonders.

SPECIFIC INFECTIOUS DISEASES.

Typhoid Fever.

Remember that it is the duty of the physician in every instance of typhoid to find the source of the typhoid bacillus. It is often inexcusable that one case of typhoid fever follows another in the cities and especially in rural communities. Inquire into

possible contaminations of the water, milk, and food supply.

Remember that flies carry the disease readily. Keep flies away from the sick-bed. It is criminal to pour the dejecta from a typhoid fever patient into the ordinary privy vault, whence the flies can carry the germs back to the food. Be sure to have the stools and urine from typhoid fever patients thoroughly disinfected before throwing them away.

Remember that the typhoid bacillus is readily transferred by the hands of the attendants.

The persons waiting on the patient should disinfect their hands thoroughly after handling the patient; 70-percent alcohol is a good disinfectant.

Remember that there is no drug which can kill the typhoid bacillus in the mucous membrane of the intestines or the blood. Intestinal antiseptics may, however, inhibit their growth in the intestinal contents.

Do not try to abort typhoid fever in children by strong antiseptics; more harm than good is likely to result.

Remember that baths properly given lower the mortality of the disease; but do not torture the patient with them.

Be careful not to upset the patient's stomach by too active medication; in most cases no drugs are needed.

Watch the milk which you give the patient; do not add a milk infection to the patient's disease.

Do not overfeed the little patient. A diarrhea is best controlled by diminishing the food supply. Many a patient has been killed by overfeeding when the food was not digested or absorbed.

When severe diarrhea and tympanites arise, the food must be diminished and often the milk stopped altogether; feed the patient on well-boiled cereal decoctions and broths for a few days.

Remember that constipation is the rule in typhoid fever; when diarrhea supervenes, either the disease is one of unusual severity or the diet is improper.

Stimulants are only rarely needed in the typhoid fever of children; hypnotic action is best obtained by hydrotherapy. Alcohol is a good hypnotic. Chloral and opium may have to be used.

Malaria.

The treatment of the various types of malaria is simply the administration of the cinchona alkaloids. A quinin salt is to be preferred; yet the treatment offers certain difficulties because young children and infants do not take the drug well. Almost invariably vomiting will arise before the patient can be cinchonized.

Remember that it is insufficient to make the quinin salt tasteless by suspending it in various sweet vehicles. It is the irritating effect of the quinin on the mucous membrane of the stomach that causes the trouble, and this irritating effect is in direct proportion to the solubility of the quinin salt. The

bisulphate is more irritating than the sulphate. Often the aromatic syrups cause nausea; then the bitter solution in acidulated water may be retained.

The drug may be given in cream or in a mucilaginous fluid, but in either case it may cause vomiting.

Do not be deluded that malaria can be cured by rubbing quinin upon the skin. The dermic method of administration is worthless, as quinin is not absorbed from the skin. Rectal administration is also untrustworthy, since it irritates the rectum and is insufficiently absorbed.

The most reliable method is to give it hypodermatically. By this means failure to cure malaria is very rare.

Remember that aseptic abscesses are very common after the hypodermic injection of quinin. A few rules must be observed. Perfect asepsis must be secured and the solution must be boiled before injecting. The solution should not be too concentrated. The hydrobromid or hydrochlorid salts of quinin are to be preferred.

Remember that hydrochlorid of quinin is made much more soluble by the additional use of urea, antipyrin, and some other drugs. The so-called Laveran's solution (quinin hydrochlorid 3 parts, antipyrin 2 parts, water 6 parts) will be found most serviceable. When diluted at least four times, abscesses are very rare from its use.

Be careful not to inject these quinin solutions between the layers of the skin; necrosis is likely to

follow. Necrosis of the skin is extremely likely to occur when the peripheral circulation is very poor.

Remember that Laveran's solution is also very useful in the hyperpyrexia of septic fevers. The antipyrin brings down the temperature for a short time.

Do not forget that, while the alkaloids, quinin and cinchonidin, are more liable to be retained in the stomach, their absorption is less certain than that of the salts. The tannate of quinin is also very uncertain in regard to absorption.

It is better to cinchonize the child once a day than to give quinin at regular intervals during the twenty-four hours.

It is well to know that the mineral acids well diluted are good adjuvants of quinin.

Do not forget that acute infectious diseases often predispose to the development of a latent malarial infection.

The chemical derivatives of quinin (euquinin, aristochin, saloquinin) can be used in place of the cinchona alkaloid.

Occasionally the tincture of cinchona seems to act better than the alkaloid, quinin.

Reliable succedanea of quinin are not known. Methylene blue has been used with some success; the picrate of ammonium deserves further trial; coal-tar antipyretics seem occasionally to have a synergistic action.

Cerebrospinal Fever.

Remember that the nose and throat of a patient with cerebrospinal meningitis may contain the meningococcus. The nose and throat of attendants who apparently suffer only from simple angina may contain the meningococcus. Watch the nose and throat. Have ventilation perfect.

Do not forget that the death rate of cerebrospinal fever is very high; yet many cases recover. Do not give a hopeless prognosis.

Utilize all those agents by which the resistance of the body may be increased. Probably the iodids are still the most useful remedies. Hot baths and cold to the head are useful. Do not hesitate to relieve pain with narcotics.

Lumbar puncture is a good diagnostic procedure, but it accomplishes little from a therapeutic standpoint. The symptoms of pressure may be relieved by lumbar puncture.

Flexner's antimeningococcic serum should be used promptly in all cases. It should be given subdurally by spinal puncture.

It is possible in certain cases to obtain an advantage by injecting into the blood some drug which exerts a stimulating effect on phagocytosis. Some silver salt or colloidal silver may accomplish this desired effect.

Do not forget that pilocarpin stimulates leucocytosis, and may be found valuable in cerebrospinal fever.

Do not fail to use anodynes freely; the coal-tar antipyretics are indicated.

Above all, institute a rigid prophylaxis; visit the patient with epidemic cerebrospinal meningitis last; disinfect the hands thoroughly. It is well to change your clothing after each visit and thoroughly disinfect it. The children of the same family must not be permitted to attend school or any social gatherings. The adults who come in contact with the sick should not visit others.

Diphtheria.

Remember that a good antitoxin is specific for diphtheria. Refuse to use any other therapeutic means to the neglect of antitoxin.

Do not forget that when a child with diphtheria is injected with the antidiphtheritic serum on the first day of the disease, the mortality is almost nothing. Every additional day increases the danger.

The internal administration of pilocarpin is a good adjuvant to the antitoxin treatment. The salivation prevents the absorption of toxin to some extent.

Do not make applications of antiseptics to the throat before you are sure of the diagnosis; the partial disintegration of the pseudomembrane may obscure the diagnosis.

In cases of doubt, especially when diphtheria is endemic, give a dose of antitoxin. The antidiphtheritic serum is sometimes useful in other infections. There is a staphylococcus infection and pneumo-

coccus infection which resemble diphtheria; often only a culture can decide the difference.

It is a good rule to give antitoxin amounting to 1,000 units for each day that the disease has existed. Thus a child on the fourth day of the disease should receive at least 4,000 units of antitoxin.

In the chronic nasal diphtheria this rule does not hold. Antitoxin amounting to 3,000 and 4,000 units is usually sufficient.

Remember that in primary or secondary laryngeal diphtheria a large dose of antitoxin given at once is best, since the more antitoxin there is in the circulation the more prompt will the curative action appear.

It is much better in all cases of diphtheria to give one large dose at once and not repeated doses every few hours; the large dose secures quicker action. In diphtheria which has already existed for many days, and in which the nose and throat involvement is extensive, repeated doses must be given.

Do not forget that diphtheria antitoxin never causes heart paralysis. It should be remembered, however, that if the serum is given late, the serum disease appears about the same time as the cardiac paralysis. The latter trouble may be made more dangerous.

The best prophylactic for cardiac and other forms of paralysis is the early injection of antitoxin in full doses and the administration of pilocarpin.

In laryngeal stenosis do not wait too long before

intubating the larynx or performing tracheotomy. Do not let the child become exhausted.

Watch for hemorrhage when the membrane becomes loosened in nasal diphtheria. Fatal hemorrhage has occurred many times after diphtheria of the nose. A weak solution of iron subsulphate should always be on hand. A firm tamponade may be necessary to control the hemorrhage. Adrenalin is useless.

Do not allow the child to get up too soon after an attack of diphtheria. Rest in bed for at least two weeks after convalescence is necessary. The deaths from cardiac paralysis are always to be feared. Paralyses of the palate or ocular muscles are not serious, almost always recover, and are uninfluenced by medication.

Remember that the semirecumbent posture is preferable in threatened heart failure. The recumbent posture increases the general blood pressure. Quiet the nerves with morphin, and give camphor and caffein for the heart. Strychnin is very serviceable, but it often increases the nervous irritability.

Do not allow a child convalescent from diphtheria to mingle with other children for at least four weeks after the attack. The Klebs-Löffler bacillus remains in the throat sometimes for a month or more.

Always immunize other children of the family with 500 units of antitoxin if they have not been isolated when the disease first appeared. Do not permit the disease to spread.

It is well to know that small doses of serum sensitize the child to subsequent doses given later than two weeks. It is well, therefore, to avoid immunization when the exposure is uncertain and the child can be watched.

Do not be afraid to give antitoxin when indicated, even when the child has received an injection many weeks previously. To a sensitized child the second injection may produce early and severe manifestations of serum disease, but no fatality has as yet occurred.

Always watch for nephritis after an attack of diphtheria. Extreme restlessness on the part of the child after the disease is improving demands an examination of the urine.

Always warn patients that the serum disease (urticaria, joint pains) may appear any time within three weeks after the injection of the serum.

Do not torture the child with local applications; do not injure the faucial mucous membrane with strong antiseptics. In many children it is best to get along without any local applications. It is well, however, to make an attempt to remove the pseudomembrane as soon as possible after the septic symptoms are controlled by the antitoxin.

Feed the child carefully, but do not induce indigestion by overfeeding.

Use prophylaxis; watch the throats of the adults in the family.

The modern practitioner of medicine must be ready

to do intubating or tracheotomy in severe laryngeal stenosis.

Intubation is to be preferred in the majority of cases. Tracheotomy is indicated in moribund cases; you must be ready to do tracheotomy in all cases.

Intubation is indicated in laryngeal stenosis following diphtheritic laryngitis, membranous non-diphtheritic laryngitis, the croup following measles, syphilitic stenosis, stenosis following injuries, or disease of the larynx. It can be used also in papilloma. Its use is necessary in certain forms of laryngospasm, but it may be impossible to introduce the tube; there tracheotomy will be necessary.

Remember that intubation will not relieve the patient if the stenosis is below the larynx, as in bronchial diphtheria, or if foreign body is in the bronchus. Intubation is useless in edema of the larynx.

In intubating remember to keep the instrument exactly in the median line, to raise the handle as the tip of the tube reaches the opening of the larynx, and again to depress the handle slightly as it enters the larynx.

It is safer to leave the cord attached to the tube; the end should be fastened over the cheek with adhesive plaster. If the patient cuts the string with his teeth, no harm is done.

Do not fail to fasten the patient's hands securely, or he will pull out the tube with his hands by pulling on the cord.

Remember that it is necessary to watch an intu-

bated child day and night. The tube may be closed with loosened membrane, or it may be expelled by coughing; in either case the patient's life may be in danger.

It is necessary to leave the tube in place from two to four days in laryngeal diphtheria before it is extracted; reintubation may be necessary.

Remember that intubation is a life-saving operation in pertussis when convulsions ensue from the violent coughing attacks or when laryngospasm is so severe as to threaten life by asphyxia.

Whenever the tube is expelled by coughing there is usually a relief for a short period; do not be deceived by this fleeting relief. Watch the child until it is certain that the pseudomembrane has been expelled.

Remember that the intubated child must be fed with its head lower than its body, so that the milk will not run into the larynx. If the patient will not swallow, rectal injections of water can be given. In prolonged intubation it may be necessary to feed with the stomach tube.

Tuberculosis.

The first golden rule to remember is that the general treatment of tuberculosis is the same, wherever the place of infection; tuberculosis of the bone should be treated in the same way as pulmonary phthisis. The same rule holds true in tuberculosis of the lymph nodes, the peritoneum, the kidney, or even the brain.

It is a great mistake to treat hip joint disease by rest and immobilization of the joints without advising the employment of those means which increase the resisting power of the body. A sea voyage is as curative for white swelling of the knee as for a tuberculous apex of the lungs.

Do not forget that, with rare exceptions, tuberculosis—wherever it occurs, lungs or peritoneum—is more apt to heal, or at least come to a standstill, in children than in the adult.

It is, therefore, a golden rule to heal tuberculosis completely in childhood, since it is in this period of life that the infection most frequently occurs. Heal the tuberculosis in its early stages.

Good hygienic treatment will heal a tuberculous peritonitis just as promptly as bone tuberculosis. Surgical means should be resorted to only when hygienic means are impossible or ineffectual. The same rule is applicable to glandular tuberculosis.

The treatment of tuberculosis is comprised in those measures which increase the nutrition—rest, sunshine, fresh air, and good food, adapted to the needs of the patient.

It is an error to stuff the patient with oils and fats indiscriminately. Cater to the appetite of the patient as far as possible. Give only that which can be digested thoroughly. A mixture of protein, fats, and carbohydrates is best. Remember that fruits and vegetables increase the absorption of proteids. Butter is probably as good as codliver oil in most cases.

Rest in tuberculosis means physical rest and mental rest. The tuberculous patient should not work, should not attend school, and should not take part in athletic exercises which demand the utmost exertion. Rides and walking for a short distance are beneficial. Fatigue must be avoided.

A change of climate often has the most marked effect on nutrition. A trip from the center of the continent to the seashore, or to the mountains, imparts a feeling of well-being, and increases the appetite and the absorption of food.

Fresh air, day and night, is essential.

It should be remembered that consumptive patients are extremely susceptible to other infections—e. g., influenza and pneumococcus infections. Therefore the patient should avoid the crowds. Isolation with one or two agreeable companions in a country place is ideal. He should not attend places where crowds gather; the oftener his association with people the greater becomes his liability to secondary infections.

Diarrhea in tuberculosis is best treated by a modification of the diet and not by the administration of opium. Remember that it is not so much the kind of diet that is indicated as a good quantity of protein and fats which the patient can assimilate and digest.

The necessity for surgical treatment in abdominal tuberculosis is very much exaggerated. Rest and food will often do just as much as opening the abdomen.

There is little that can be done in acute miliary tuberculosis or tuberculous meningitis.

Remember that tuberculosis is disseminated not so much by the dust which contains a few tubercle bacilli as by actual contact with a tuberculous patient. The fact that a grandfather, whom the patient never saw, died of tuberculosis has no significance; but the association of a child with a consumptive playmate or a phthisical servant is of the utmost importance.

In the vast majority of cases of tuberculosis in children it is not necessary to seek for a tuberculous cow or a consumptive ancestry. Seek for the person who has transferred the tubercle bacillus again and again by kissing the child or coughing near him. Consumption is not so easily acquired; it takes repeated infections for the germs to get a hold on the system.

The prophylaxis of tuberculosis, then, is isolation of the children. Tuberculosis will never be controlled as long as children live and sleep with tuberculous parents or relatives; as long as a tuberculous sickly uncle or aunt is placed in charge of the little ones, we can not hope to keep the disease from our little folks. It is not an uncommon event in our apartment houses, where a child across the hall is consumptive, and the healthy child plays daily with the former, that the latter acquires Pott's disease. The prophylaxis of tuberculosis is isolation. It is criminal to allow a young child to live with a con-

sumptive individual. Its resistance may be strong, but, as it acquires measles, whooping-cough, influenza, enterocolitis, etc., the time is sure to come when the tubercle bacilli will succeed in nesting themselves somewhere in the body, to break out in full force sometime later when the natural resistance is lessened by overwork or other depressing causes.

Glandular tuberculosis does not need immediate surgical intervention; strict dietetic and hygienic measures, with local applications, should be given an extended trial. Remember that tuberculous meningitis often follows operations on tuberculous joints or lymph nodes.

Tuberculosis of the bones needs immobilization—that is, functional rest; but general therapeutic measures, dietetic and hygienic, should not be neglected.

Do not neglect medication entirely in the treatment of tuberculosis; much good can be done by giving the proper drug at the proper time.

Pertussis.

Always isolate a patient who has a spasmodic cough, gradually becoming aggravated in spite of cough medicines. Keep pertussis patients away from babies. The death rate is high among infants.

Remember that the open air is the best treatment for pertussis. Keep the patient out of doors even if the air is cool. In winter clothe the child well and keep him outside a good part of the day. The inhalation of cool air soothes the mucous membrane.

Do not forget that the patient suffering from whooping-cough is very susceptible to secondary infections. A combination of a pneumococcus infection and pertussis is very serious.

It is essential, therefore, that the patient should always breathe fresh, clean air. A daily excursion into the woods or park is beneficial. Keep him away from others, whether they have had whooping-cough or not.

Quinin often has an inhibitory effect on pertussis as well as on other infectious diseases. Antipyrin, belladonna, and sodium bromid are the best antispasmodics.

At night keep the patient well covered, and let him sleep near an open window. Cool air is the best respiratory sedative.

Inhalations are sometimes useful. Emollient applications to the chest sometimes diminish the number of paroxysms. A bandage around the chest and abdomen support the muscles.

Do not be deceived by the favorable action of this or that remedy in a few cases. Whooping-cough varies so much in severity that it is exceedingly difficult to estimate the merits of any therapeutic agent. Hundreds of remedies have been recommended; most of them are useless.

A young infant suffering from pertussis must be watched day and night; it may have a fatal laryngospasm from a severe coughing paroxysm. If it stops breathing and becomes cyanotic, the finger

must be thrust into the mouth and the throat cleared of mucus; then turn the infant upside down, so that the mucus will flow out of the larynx; use artificial respiration to restore the breathing.

Convulsions from severe laryngospasms are dangerous; intubation may be necessary in some severe forms.

Look after the diet very carefully; the child needs strength. If it has been badly fed, correct the diet.

Do not give nauseating expectorants in whooping-cough. Such drugs can do only harm.

The bronchopneumonia following pertussis is always protracted, and the patient needs good food and nursing especially.

Remember that the disease is cured by the patient by those physiologic processes that bring about immunity; do not expect to abort the disease by local or general antisepsis.

Mumps.

Remember that drugs are not indicated in mumps. An antipyretic may be given for high fever.

In young men mumps is sometimes complicated by orchitis. As a rule, this complication is not serious. Anodynes and local cooling agents may be advantageously used.

Do not forget that sudden deafness may occur after mumps.

Isolation for two or three weeks is necessary to prevent the spread of the disease.

The troublesome constipation should be met by the administration of laxatives; do not give too strong purgatives.

The external application of camphor liniment and cotton dressing is often soothing. Belladonna liniment can be used if the swelling is very severe.

Keep the patient in bed, prescribe a light diet, and keep excitement away.

Troublesome vomiting sometimes occurs, and should be treated by starvation and small doses of some gastric sedative.

Septicemia.

It should be remembered that, while general septicemia may be a part of the infectious process in all severe infectious diseases, the disease may occur independently of any recognized form.

The fundamental law is to maintain the strength by a careful adjustment of the diet; keep the nutrition at the highest point possible.

The next rule is absolute rest; even hydrotherapy should not be made burdensome.

It is becoming recognized that certain metals (colloidal silver, silver salts) may at times be effective in treatment. Bactericidal sera sometimes work wonders.

Ordinarily, we must depend on salicylic acid, or its compounds, and quinin and iron to combat the disease. It is questionable whether these drugs are advantageous in all cases.

In streptococcus infections an antistreptococcic serum sometimes acts very favorably, but do not give this serum unless the bacteriologic cause is known.

Do not hesitate to give an occasional dose of an antipyretic, but do not give these drugs at regular short intervals.

Use stimulants freely if necessary, but do not overstimulate; remember that strychnin often increases the restlessness.

The use of alcohol in sepsis is still sometimes used; a good dose as a hypnotic is advantageous.

The diarrhea is best controlled by feeding a smaller quantity; milk must sometimes be omitted.

Tetanus is best prevented by giving a dose of antitetanic serum. Occasionally this serum cures.

Children who have been injured by fireworks should invariably receive a dose of the serum hypodermatically.

Rheumatism and Endocarditis.

Rheumatism is serious in childhood on account of the great liability of cardiac involvement; otherwise it is a mild disease and readily yields to salicylates.

Remember that the endocarditis does not yield to salicylates so readily. The iodids in addition are useful. Rest in bed must always be enforced.

Always watch a child who has recently passed through an attack of rheumatism. Recurrent endocarditis makes the prognosis exceedingly un-

favorable. Fight recurrent attacks of endocarditis. Change of climate is often helpful; living in the open air or in a tent during the summer may prevent these attacks. Give the iodids and iron. Improve the nutrition and insist on protracted periods of rest. Do not let the child go to school.

Unfortunately we know of no absolute preventive of rheumatism; cold evidently is only a predisposing cause.

Codliver oil is one of the most effective remedies for the malnutrition and anemia following endocarditis.

Syphilis.

Prevent hereditary syphilis by giving the mother antisyphilitic treatment during pregnancy in all instances in which the history reveals recent syphilis in the father or mother.

Insist that the mother nurse the syphilitic baby; for on artificial feeding most syphilitic babies die of an intercurrent affection, if not of the original infection. The mother's milk overcomes some of the susceptibilities of the infant.

Mercury with chalk or calomel are the best internal remedies, but it is advantageous to add a little Dover's powder to the drug, as infants are very susceptible to gastroenteric irritation from the mercury. The dermic application of mercurial ointment is also very effective. Lesions that do not heal promptly can be favorably influenced by potassium iodid given

as an adjuvant to mercury. The sublimate baths are too uncertain. Keep up the child's nutrition.

It is well to treat snuffles with a very weak solution of corrosive sublimate or some ointment containing calomel.

Do not allow the syphilitic baby to nurse any one but its mother; she is immune and the wet-nurse is not.

Always warn the attendants and parents about kissing the syphilitic child who has lesions on the face, lips, or mouth.

Always insist that the baby remain under observation and treatment for at least one year.

Syphilis tarda should receive the iodids in addition to mercury.

THE EXANTHEMATA.

Remember that all children should have measles, rötheln, and chicken-pox; no child should have scarlet fever or small-pox. Prevent all the former diseases during infancy. It is better that they become immune to these diseases during childhood than be infected when they are adults. But fight scarlet fever and small-pox with all the means science gives. Prevent them at all hazards.

It is useless to isolate the other children when an eruption of measles appears; the patient during the prodromal stage has already infected the others. Measles is the most contagious of all exanthemata. Separate the baby from the patient who has measles.

While the breast-fed infant is usually immune, this is not invariable.

Do not forget to look for Koplik's spots in all children who have fever and coryza; it will prevent much embarrassment and give an opportunity for effective isolation when necessary.

The bronchial and pulmonary complications in measles are usually caused by secondary infections, by the pneumococcus, etc.; therefore under no circumstance permit any child who has a bad cold or a cough not due to measles to play with children during or immediately following an attack of measles.

For the same reason the air breathed by the patient must be absolutely pure; the fear of draughts in measles is a common source of pneumonia. Foul, stagnant air must not be tolerated.

Hospital treatment for the exanthemata is less successful, since the commingling of several cases of the same disease increases the danger of secondary infections.

Never permit a child having bronchopneumonia following measles to remain with others having uncomplicated cases of the latter disease. The additional infection may be carried to all the children. Severe epidemics of pneumonia occur in institutions where many children occupy one room; similarly the severest cases of measles occur in families where several children sleep in the same bed.

Remember that the treatment of measles is pure air, rest in bed, and cold drinks. Mild sudorifics are very helpful.

Never give strong purgatives in measles. The stomach and intestines are also implicated in the disease process, and purgatives are harmful irritants.

Do not keep the rooms in which patients are kept too dark. The conjunctivitis following measles is not aggravated by a moderate diffuse light.

Do not give nauseating expectorants for the cough of measles. The stomach will be sure to rebel. Equal parts of the syrups of tar and wild cherry, with a little paregoric, is all that is necessary.

Remember that as long as the cough continues there is a sore place somewhere in the respiratory tubes which may become infected. Keep the patient away from crowds at least ten days after the fever ceases.

Do not give drugs for chicken-pox; the course of the disease can not be influenced; possibly one or two doses of an antipyretic when the fever is very high is permissible.

Remember that the contagious principle resides in the scabs of the lesions. Until all the primary crusts have fallen off, the child can give the disease to others.

Scarlet fever should be regarded as a preventable disease; prompt isolation almost always stops the spread of the infection.

Remember that the mild forms of scarlet fever are often not recognized, and form the sources of contagions to others. All scarlatinal rashes and sore

throats should be considered scarlatina unless very strong evidence to the contrary exists.

Always examine very carefully the nose and throat of a convalescent patient for ulcerations, erosions, or inflammatory spots before permitting his mingling with other children; a small lesion in the nose may be the source of contagion even after desquamation is complete. The nose and throat of a scarlet fever patient must be perfectly healthy before the case should be dismissed.

Never grow too confident in the therapeutic means, and never grow careless in watching the course of the disease, for the disease varies more than any other infectious disease in its severity or malignancy. Bretonneau years ago pronounced scarlet fever the mildest of all the exanthemata, because during an extensive practice of twenty years he did not lose a single case. Yet subsequently he learned that the disease may be as malignant as the plague.

Always examine the throats of the adults who have been associated with a scarlet fever patient; many of them have a scarlatinal angina which may be the source of contagion to others.

The administration of pilocarpin in the treatment of scarlet fever is attended by excellent results. The throat is kept moist, the skin active, and the fever is somewhat controlled. Hydrotherapy must not be neglected. Chloral is the best remedy for the active delirium which occurs in some cases. Milk should be the principal diet. Antistreptococcic serum is sometimes useful.

Do not give broths and meat in scarlet fever; they throw additional work on the kidneys; neither must salt be given for the same reason.

The best preventive of post-scarlatinal nephritis is pilocarpin and baths. Cool baths should be given during the height of the fever; but use warm baths if marked albuminuria appears.

Remember that a milk and cereal diet has a preventive influence in acute nephritis.

The best preventive for suppurative otitis media is pilocarpin. Do not worry the child by too much nose and throat applications. Forcibly washing the nose and throat often initiates an inflammation of the Eustachian tube, which subsequently involves the middle ear. A 5-percent solution of argyrol may be used in the nose.

Never despair of a patient with scarlet fever. The most severe septic cases get well. Therapeusis is most helpless in the rapid fulminant cases.

Rubella needs little treatment outside of rest in bed; an antipyretic must sometimes be given.

Children sometimes give a history of two attacks of measles; most commonly, however, one attack of these was German measles.

Remember that it is possible to have two or more attacks of any of the exanthemata; but the occurrence of a second attack should not be received except on convincing evidence.

Remind the parents to have their child vaccinated in infancy, and again when it enters school. Thor-

ough vaccination is the only effective prophylactic for small-pox.

Do not regard the failure "to take" as evidence of immunity to small-pox; there are hundreds of such persons who have rested on a false security to their own regret. Vaccinate repeatedly at different times until the vaccine pustule is produced.

Do not fail to warn the mother that the secretion from the vaccine pustule is contagious; the arm should be protected; otherwise other persons may be inoculated in undesirable parts of the body, as the lip or the cheek.

Use the most careful asepsis in vaccinating a child. Disinfect the arm with 70-percent alcohol before inoculating the virus.

The ordinary shield put on with adhesive plaster does more harm than good. Use sterilized gauze for dressing the vaccinated lesion or the vaccine pustule.

No treatment is necessary for megaloerythema. Keep the patient in bed for a few days.

Infantile roseola needs no special treatment; as a rule, the diagnosis is not made until the rash appears, when the fever rapidly abates.

SEVERE INFECTIOUS FEVERS.

It can not be too often repeated that the course of the vast majority of the acute infectious diseases in children is toward spontaneous cure. Those processes which bring about an eradication of the infec-

tion can frequently be assisted or stimulated not only by hygienic surroundings, hydrotherapy, and physical therapy, but also by well-directed medication. Do not be a therapeutic nihilist.

When, however, the disease has lasted for several days, and it is seen that the body will have a very serious struggle to overcome the infection; when the seat of the inflammatory process has spread until it occupies a large area; when, in addition to the local infection, a septicemia is complicating the course of the illness, then it is usually best to discontinue medication directed toward the eradication of the infection, and direct all our efforts to sustain the life and strength of the child's body.

The diseases in which this general rule applies are the severer forms of acute infectious diseases—namely, pneumonia, scarlatina, ileocolitis, cerebrospinal fever, typhoid fever, pyelitis, variola, acute tuberculosis, peritonitis, septicemia, and endocarditis. Rarer forms are chorea, varicella, pertussis, parotitis, rheumatism, gonorrheal arthritis, etc. Exceptions are malaria, syphilis, and diphtheria, in which specific means against the infection must be continually administered in some way.

Remember that the general means employed to sustain life and strengthen the vital functions necessitate a most careful examination and constant supervision of all dynamic, metabolic, and excretory functions. All functions unnecessary to the life process should be kept in abeyance; all functions

necessary to life should be watched, and stimulated if they grow weaker.

Hence it should be remembered that absolute rest of locomotion, sight, hearing, and cerebration is necessary. This does not mean splints, whispers, and dark rooms, but passive motion, frequent change of position, light rooms, and little talking. It excludes loud noises, too much company, unusual faces or scenes. Fresh, cool air is essential.

Do not forget that hydrotherapy properly employed has soothing and stimulating effects unobtainable often in any other way. The technic must often be varied and adapted to the indications and contraindications which each patient presents. Sometimes the cold bath or cold pack, at other times effusions or sprays, and in still other instances warm or even very warm applications and baths, should be employed.

Do not forget the ice bag and cold effusions to the head in patients whose cerebral functions seem very much affected by the high temperature. Do not, however, overdo it; the cerebral cortex can be kept too cold, which irritates it and induces muscular rigidity and irritability of the nerves.

The food merits a primary consideration. It is a mistake to feed our little patients, struggling with a serious infectious disease, on broths and egg albumen only. The preparations of albumoses on the market are not good foods for fevers. Milk is to be given when possible, but it often gives rise to severe indi-

gestion and tympanites, so that other foods must be used.

Do not forget to inquire into the purity of the milk to be given your patient. Infected milk is one of the most common causes of dyspepsia and tympanites in the severe infectious diseases.

Remember that the most necessary food constituents in the feeding of fevers are the carbohydrates. Fever patients need little protein. Give sugar and dextrinized starch in a variety of forms; occasionally fat in small quantities increases very much the caloric content. Do not be afraid of sugar; it is badly needed.

Watch the quantity of fluid which the patient is taking. Water is absolutely necessary for all physiological processes. An infant should get at least one-sixth of its weight in fluids daily; if the stomach does not stand it, give water by the rectum.

Do not forget to stimulate the patient if some of the dynamic functions are weak. Not only the heart, but digestion, metabolism, and all activity, needs stimulation if the proper activity is not present. Do not forget tea and coffee, or caffein; as general stimulants they have a very decided value in all infectious fevers. Tea can be given to the youngest infant. Coffee will sometimes produce sleep in that it relieves the sense of weakness. Alcohol still holds its place as a good general stimulant and hypnotic. It should not be given in too large doses.

Remember camphor as a general and cardiac stimulant. The effect is often very gratifying.

Remember that strychnin usually increases the nervous excitability already increased by the bacterial toxin. This drug should be reserved for those cases of depression in which the general nervous irritability is at a low ebb.

Digitalis acts more slowly; it is a good heart stimulant, but it often disappoints us in the severe infectious fevers. It is well, however, to give some digitalis or strophanthus when the blood pressure is very low.

Watch the amount of sleep. At least eight hours of sleep should be procured. Alcohol is a good hypnotic. Sleep may be induced by hydrotherapeutics. Occasionally we must resort to opium; do not be afraid to give it. The pure hypnotics, chloral hydrate, trional, and veronal, act well in infants and children.

Do not forget to use the physiological salt solution occasionally if the arteries seem empty. Give it by the rectum or hypodermatically.

When the peripheral circulation is very poor, mustard baths or friction with hot sponges should be remembered.

Do everything needful for the child within ten or fifteen minutes; do not prolong your attentions; do not worry the child constantly. Do what is necessary, and then let the child alone for at least two hours.

Remember that there is no stage of any acute infectious disease so severe but that the child may overcome it. Never give up hope until the child is dead.

Gentle massage with some bland ointment often has a very quieting effect, and should be remembered when hydrotherapy is contraindicated.

Watch the secretion of the kidneys; promote their activity if their function is impaired; but do not give medicinal diuretics as long as the internal administration of water acts sufficiently diuretic.

The peripheral circulation fails first before death; it is necessary to stimulate the vasomotor system by bathing and passive motion. Cold air passing over the body increases blood pressure. Caffein and camphor do most good in keeping the blood pressure normal.

SKIN DISEASES.

The erythema of the newly-born should be treated by soothing lotions. Olive oil and limewater, equal parts, make a good application.

Remember that there are some skin diseases in children which need active treatment; others should be allowed to run their course without interference.

Most skin eruptions in children are harmless and disappear without treatment.

There are no specifics for various skin diseases. In malarial dermatosis give quinin; in rheumatic forms, salicylates will be useful. The internal administration of arsenic for skin diseases has been generally discontinued.

Equal parts of olive oil and limewater will be found a very serviceable application in all irritative lesions, such as dermatitis of the buttocks from irritating stools, intertrigo, sunburn, miliaria, etc.

Remember that the facial eczema of infants often appears when there is no error in diet, and that, whatever digestive disturbance may cause eczema, we are at present unable to tell just what kind of disorder favors it.

Do not be deluded with the conception that eczema is promptly curable by some specially adapted external application. The symptoms of eczema may be relieved, but as a rule the disease is protracted and disappears spontaneously after a few months; hence do not reach the conclusion that the last application applied has a marked curative potency.

Foods deficient in salts are said to act favorably in cases of eczema.

Regulate the diet in eczema; insist on a rational diet. Do not use stale foods; get fresh milk.

Remember that the ointment of zinc oxid has as yet not been surpassed as a local therapeutic agent.

Do not fail to tell the mother that a certain time is necessary to cure eczema. Insist on this time; it is the greatest aid.

Remember that any effective germicide is curative in impetigo, but do not irritate the skin too much by too strong applications.

It is worth remembering that the cause of an urticaria has been ingested several days before. Beef juice and rare meats often cause urticaria. The treatment is symptomatic.

As the toxin causing erythema multiform is unknown, no specific treatment can be instituted.

The same rule holds in purpura; give the child tonics.

Remember that the pus of furuncles rubbed into the skin causes other furuncles; allowing a boil to rupture spontaneously permits this autoinoculation.

The classical treatment of scabies by sulphur ointment has not been superseded.

Remember that ringworm of the scalp is an obstinate affection; it requires time and patience; the hair should be cut short; epilation of the invaded area is usually necessary. A strong parasiticide should be applied; it must be thoroughly rubbed in. The disease is very contagious; examine the scalp of other children in the family; isolate the patient.

Psoriasis should not always be considered incurable. Much can be done.

Remember that alopecia areata practically always gets well. Use some strong antiseptic.

In the treatment of **ringworm** the parasiticide should be in strong solution; nothing need be said as to the drug to be chosen.

Do not regard acne as curable by time only; proper dietetic directions and the application of a parasiticide often cures, and more often mitigates.

Remember that strophulus (urticaria papulosa) is common in young children; good results follow internal administration of calcium sulphid.

Furunculosis can frequently be avoided by the internal administration of dilute sulphuric acid.

Do not hesitate to use a good staphylococcic bac-

terin in persistent cases of furunculosis; a very few injections may lead to a rapid cure.

There is no doubt that calcium sulphid given internally may assist in overcoming the diseases in many cases.

THERAPEUTIC ADDENDA.

Adrenalin given internally has cured a case of hemorrhagic disease of the newly-born; remember that gelatin given internally has hemostatic properties.

Diabetes insipidus can often be ameliorated by drink restriction; drugs have only a temporary action.

Scrofula, being a condition in which the systemic resistance is lessened, should be treated by hygienic and nutritive measures.

Graves' disease should be treated by antithyroidin (thyroidectin), a remedy which promises to relieve the symptoms promptly in most cases.

Thymus extract has not fulfilled any theoretical expectations in therapeutics.

Acid autointoxication is common in infancy and childhood; it is best combated by giving large doses of sodium bicarbonate.

No specific for glandular fever has yet been found; the clinician will find here a disease which has a varying clinical period, but is usually protracted.

Do not fail to have in mind a thorough dietary and hygienic regimen for increasing the nutrition of the

child; it will be found very useful in practice in a variety of conditions.

Remember that we have no weapons to combat rheumatoid arthritis, except dietetic directions. Do not discontinue the use of meat and eggs.

There is a school of pediatrists who treat tetany by withdrawing the milk; usually more permanent results will be obtained by giving fresh unheated milk.

In laryngospasm from tetany the dangerous symptoms may be promptly relieved by withdrawing the milk from the diet for a short time.

Remember that an oil rub is very soothing to the nervous system in eclamptic conditions. The warm bath is generally used; when hyperpyrexia exists, the cold bath should be given.

In the hydrocephalus due to malnutrition and rachitis the tincture of digitalis and fluid extract of ergot are often curative.

Do not forget the butter treatment of chronic constipation. Give a teaspoonful of melted butter three times a day. Olive oil enemata given daily have a soothing effect on the rectum and often cure constipation in the infant.

A good **oil rub** of the whole integument should not be despised. It promotes the circulation in the skin and quiets the nervous excitability. Many mothers have cured what appeared incurable diseases with goose grease or codliver oil.

Salol given internally may cure a persistent urinary infection.

Remember that a 2-percent solution of common salt makes a good anthelmintic to be injected into the rectum for oxyuris. Do not allow the salt solution to be absorbed. Common salt in large doses is poisonous.

Remember that intermittent hydronephrosis tends to disappear as the infant grows older; persistent hydronephrosis must be treated by incision and drainage.

It is well to examine the eyes and nose in the headaches of children. Nervous headaches (outside of migraine) are rare in children. Neuralgia is uncommon.

Do not give a general anesthetic to a feeble infant who is artificially fed, as this is sufficient to induce a protracted, even fatal, indigestion and malnutrition.

Remember never to permit an anesthetic to be given to a child suffering with bronchitis, unless life is in danger. The depression produced by the anesthesia and the shock of the operation permits the bronchial infection to spread to the lungs.

Massage and passive motion are very useful in many forms of paralysis.

Give fruit juice for the pain in the limbs of rachitic infants; scurvy may show itself first by tenderness of a joint.

Remember that human milk is usually unsuitable for infants suffering with pyloric stenosis. Give some artificial food which forms no coagula in the stomach and use gastric lavage.

PART V.

FORMULARY.

GENERAL OBSERVATION.

It is an old custom to annex a formulary to works on pediatrics. Its utility is unquestioned, but that definite prescriptions may also do harm can not be doubted. Again, the tendency at present is to prescribe only one drug, which, of course, simplifies pharmacy and teaches more to the physician, but which does not always cure so promptly or at least not so pleasantly; nevertheless, the old custom should not be entirely discarded.

The following prescriptions may help in difficult places, and either contain new drugs or combinations not so well known. All prescriptions, unless otherwise stated, have the doses arranged for an infant two years of age.

Antemetics.

℞	Phenoli	♏ ss	(.03)
	Magma magnesiæ	℥ ss	(15.)
	Spiritus chloroformi	♏ xx	(1.2)
	Aquæ menthæ piperitæ	℥ ss	(15.)
	Aquæ anisi	q. s. ad ℥ ij	(60.)

Misce.

Sig.: Teaspoonful every two hours.

For the vomiting of acute gastric indigestion, acute gastritis, etc.

℞ Validol ..... ♏ x (.6)
Olei amygdalæ expressi..... ʒ j (4.)
Pulveris acaciæ ..... gr. xxx (2.)
Syrupi ..... ʒ ss (15.)
Aquæ anisi ..... q. s. ad ʒ ij (60.)
Misce.
Sig.: Teaspoonful every two hours.

For the vomiting of gastritis, gastroenteritis, cyclic vomiting, tuberculous meningitis, pertussis.

℞ Anesthesin ..... gr. iij (.2)
Sacchari lactis ..... gr. xv (1.)
Misce et divide in pulveres No. XV.
Sig.: 1 every two hours.

For obstinate vomiting.

Anodynes.

℞ Antipyrini ..... gr. xxx (2.)
Tincturæ veratri ..... ♏ xvj (1.)
Syrupi aurantii corticis..... ʒ ij (60.)
Misce.
Sig.: Teaspoonful every three hours.

℞ Aspirin ..... gr. xxiv (1.5)
Tincturæ opii camphoratæ ..... ʒ iiss (10.)
Mucilaginis acaciæ ..... ʒ j (30.)
Aquæ ..... q. s. ad ʒ ij (60.)
Misce.
Sig.: Teaspoonful every three hours.

For earache, pains of osteomyelitis, meningitis, etc.

Antipyretics.

℞ Quininæ hydrochloridi ..... gr. xxx (2.)
Antipyrini ..... gr. xx (1.2)
Aquæ ..... ʒ j (4.)
Misce.
Sig.: 5 drops diluted, to be used hypodermatically.

This is Laveran's solution, very valuable in malaria and all septic fevers.

℞ Acetphenetidini .....gr. xxiv (1.5)
Ammonii salicylatis .....gr. xxiv (1.5)
Syrupi tolutani .....℥ ij (60.)
Misce.
Sig.: Teaspoonful every three hours for fever.

Useful in all mild fevers, mumps, varicella, influenza, bronchitis, angina, etc.

℞ Aspirin .....gr. xxx (2.)
Mucilaginis acaciæ .....℥ ij (60.)
Misce.
Sig.: Teaspoonful every three hours.

Useful in tonsillitis, rheumatism, and septic fevers.

℞ Pilocarpini hydrochloridi .....gr. ss (.03)
Sodii benzoatis .....3 j (4.)
Aquæ menthæ piperitæ .....℥ j (30.)
Syrupi .....℥ j (30.)
Misce.
Sig.: Teaspoonful every three hours.

Use in all throat infections, tonsillitis, scarlatina, and diphtheria.

Antiseptics.

℞ Glyceriti boroglyceridi .....℥ iij (90.)
Sig.: Apply to white patches in the mouth.

Most effective for thrush.

℞ Potassii chlorati .....gr. xlv (3.)
Aquæ .....℥ iv (120.)
Misce.
Sig.: Mouth wash.

Very effective in ulcerative stomatitis, Vincent's angina, and tonsillitis.

℞ Liquoris antiseptici, U. S. P.....ʒ iss (45.)
Glycerini .....ʒ ss (15.)
Aquæ .....q. s. ad ʒ iv (120.)
Misce.
Sig.: Mouth wash.

Very useful in all catarrhal inflammations of the mucous membrane of the mouth.

℞ Argyrol .....gr. xxv (1.5)
Aquæ .....ʒ j (30.)
Misce.
Sig.: Use a few drops once or twice daily.

This is a valuable formula for various infections of the eye, nose, and vagina.

Antispasmodics.

℞ Chloralis hydratis .....gr. xxiv (1.5)
Sodii bromidi .....gr. xxx (2.)
Fluidextracti lupuli .....♏ xv (1.)
Syrupi .....q. s. ad ʒ ij (60.)
Misce.
Sig.: Teaspoonful every four hours.

For laryngospasm of tetany, restlessness in acute fevers, convulsions, etc.

℞ Elixiris valerian ammoniaci,
Aquæ fœniculi.....āā ʒ j (30.)
Misce.
Sig.: 10 drops every two hours.

For nervousness of colicky or teething children.

℞ Antipyrini .....gr. xxx (2.)
Atropini sulphatis .....gr. 1/60 (.001)
Sodii bromidi .....gr. xlv (3.)
Syrupi pruni virginianæ .....ʒ j (30.)
Aquæ .....q. s. ad ʒ ij (60.)
Misce.
Sig.: Teaspoonful every three hours.

For whooping-cough.

Astringents.

℞ Sulphuris loti .....gr. xv (1.)
Bismuthi subnitratis .....ʒ j (4.)
Syrupi rhei aromatici .....ʒ ss (15.)
Mucilaginis acaciæ .....ʒ j (30.)
Aquæ anisi .....q. s. ad ʒ ij (60.)
Misce.
Sig.: Teaspoonful every three hours.

For gastroenteric infection and ileocolitis.

℞ Tannigeni .....gr. xxx (2.)
Bismuthi subnitratis .....ʒ j (4.)
Misce et divide in pulveres No. XV.
Sig.: 1 every three hours.

For ileocolitis and follicular enteritis. Tannopine or tannalbin can be used for tannigen.

Cardiac Sedatives.

℞ Tincturæ veratri .....♏ xv (1.)
Acetphenetidini .....gr. xv (1.)
Elixiris aromatici .....ʒ ss (15.)
Aquæ .....q. s. ad ʒ ij (60.)
Misce.
Sig.: Teaspoonful every three hours.

For the excitement of fevers.

℞ Guaiacolis carbonatis .....gr. xxiv (1.5)
Tincturæ veratri .....♏ xv (1.)
Mucilaginis acaciæ,
Syrupi tolutani .....āā ʒ j (30.)
Misce.
Sig.: Teaspoonful every two hours.

For pneumonia (early stage). This prescription is useful also in the febrile stage of bronchitis and pleurisy.

Cardiac Stimulants.

℞ Caffeina citratæ .....gr. ij (.14)
Tincturæ strophanthi ..... ♏ x (.6)
Spiritus camphoræ .....♏ xxx (2.)
Pulveris acaciæ .....gr. xx (1.2)
Olei amygdalæ expressi .....ʒ iss (6.)
Syrupi ..... ℥ ss (15.)
Aquæ anisi .....q. s. ad ℥ ij (60.)
Misce.
Sig.: Teaspoonful every three hours.

Good heart stimulant in all protracted fevers and exhausting diseases, as pneumonia, ileocolitis, septicemia, etc.

℞ Spiritus camphoræ .....ʒ ij (8.)
Tincturæ digitalis .....ʒ ij (8.)
Tincturæ strophanthi .....ʒ j (4.)
Misce.
Sig.: 10 drops in water every four hours.

For cardiac dilatation from valvular disease. For a child of 5 years this dose should be doubled.

Carminatives.

℞ Tincturæ asafetidæ .....ʒ j (4.)
Lactis magnesiæ .....ʒ ss (2.)
Aquæ fœniculi..... ℥ ss (15.)
Aquæ chloroformi .....ʒ ij (8.)
Aquæ anisi .....q. s. ad ℥ ij (60.)
Misce.
Sig.: One-half teaspoonful every two hours.

For colic.

℞ Bismuthi subcarbonatis .....gr. xlv (3.)
Tincturæ opii camphoræ .....ʒ j (4.)
Misturæ cretæ .....q. s. ad ℥ ij (60.)
Misce.
Sig.: Teaspoonful every three hours.

For colicky pains and acid stools.

℞ Elixiris anisi (N. F.) .....ʒ j (30.)
Sig.: 10 drops in a teaspoonful of water.

For colic.

℞ Sodii bromidi .....gr. xxiv (1.5)
Tincturæ opii camphoratæ .....♏ xxx (2.)
Aquæ fœniculi.....ʒ j (30.)
Aquæ anisi .....q. s. ad ʒ ij (60.)
Misce.
Sig.: One-half teaspoonful every two hours.

For colic in a young baby.

Diaphoretics.

℞ Pilocarpinæ hydrochloridi .....gr. ¾ (.05)
Aquæ .....ʒ ij (60.)
Misce.
Sig.: Teaspoonful every three hours.

For a child of 4 years. Useful in acute fevers and various forms of nephritis.

℞ Acetphenetidini .....gr. xx (1.2)
Alcoholis .....ʒ j (4.)
Syrupi aurantii .....ʒ ij (60.)
Misce.
Sig.: Teaspoonful every three hours.

In all mild fevers.

Diuretics.

℞ Theobromatæ salicylatis .....gr. xv (1.)
Sacchari lactis .....gr. xxx (2.)
Misce et divide in pulveres No. XV.
Sig.: 1 every four hours.

℞ Potassii citratis .....gr. xxx (2.)
Fluidextracti tritici .....♏ lxx (5.)
Aquæ gaultheriæ .....ʒ ij (60.)
Misce.
Sig.: Teaspoonful every three hours.

Useful in febricula and in functional anuria or dysuria.

Expectorants.

℞ Guaiacolis carbonatis .....gr. xv (1.)
Syrupi pruni virginianæ .....℥ j (30.)
Mucilaginis acaciæ .....℥ j (30.)
Misce.
Sig.: Teaspoonful every two hours.

Useful in acute bronchitis.

℞ Antipyrini .....gr. xv (1.)
Ammonii chloridi .....gr. xv (1.)
Syrupi tolutani .....℥ ij (60.)
Misce.
Sig.: Teaspoonful every two hours.

Useful in febrile bronchitis.

℞ Potassii iodidi .....gr. xvj (1.)
Syrupi senegæ .....ʒ iss (6.)
Potassii bromidi .....gr. xxx (2.)
Syrupi picis liquidæ .....℥ j (30.)
Aquæ anisi .....q. s. ad ℥ ij (60.)
Misce.
Sig.: Teaspoonful every two hours.

Useful in acute laryngitis or bronchitis.

Galactagogues.

℞ Pilocarpinæ hydrochloridi .....gr. j (.06)
Spiritus anisi .....ʒ iss (6.)
Syrupi acaciæ .....℥ ij (60.)
Misce.
Sig.: Teaspoonful three times a day.

To nursing woman.

℞ Elixir glycerophosphate of lime and soda.
Sig.: Tablespoonful three times a day.

Hypnotics.

℞ Chloralis hydratis .....gr. xxx (2.)
Sodii bromidi .....gr. xxx (2.)
Elixiris valerianæ ammoniatæ ....ʒ iss (6.)
Aquæ .....q. s. ad ℥ ij (60.)
Misce.
Sig.: Teaspoonful to produce sleep.

Or:

℞ Veronal .....gr. xv (1.)
Sacchari lactis .....gr. xxx (2.)
Misce et divide in pulveres No. XV.
Sig.: 1 powder to produce sleep.

Inhalations.

℞ Liquoris cresolis compositæ .....℥ j (30.)
Sig.: Teaspoonful in a pint of water is to be boiled and the vapor inhaled.

Useful in bronchitis and pertussis.

℞ Cresolis .....ʒ j (4.)
Spiritus camphoræ .....ʒ ij (8.)
Alcoholis .....ʒ vj (24.)
Misce.
Sig.: To be added to boiling water and the vapor inhaled.

℞ Creosoti .....ʒ ss (2.)
Spiritus camphoræ .....ʒ j (4.)
Tincturæ benzoini .....℥ j (30.)
Misce.
Sig.: To be added to boiling water and the vapor inhaled.

Useful in acute laryngitis, croup, etc.

Purgatives.

℞ Phenolphthalein .....gr. vij (.5)
Sacchari lactis .....gr. xxx (2.)
Misce et divide in pulveres No. XV.
Sig.: 1 at bedtime.

A mild laxative, useful in simple constipation.

℞ Magma magnesiæ,
Syrupi rhei aromatici .....āā ℥ j (30.)
Misce.
Sig.: Teaspoonful every hour until bowels move.

Useful in all acute gastroenteric infections.

Sialagogue.

℞ Pilocarpinæ hydrochloridi .....gr. ss (.03)
Aquæ .....℥ ij (60.)
Misce.
Sig.: Teaspoonful every three hours.

This dose can be increased if salivation is not produced. Very effective in all throat infections.

Tonics.

℞ Syrupi calcis lactophosphatis,
Extracti malti .....āā ℥ ij (60.)
Misce.
Sig.: Teaspoonful three times a day.

Or:

℞ Syrupi phosphatis compositæ .....℥ iv (120.)
Sig.: Teaspoonful three times a day.

Very useful in rickets.

℞ Potassii et ferri tartratis .....gr. xvj (1.)
Glycerini .....ʒ iss (6.)
Aquæ anisi .....℥ ij (60.)
Misce.
Sig.: Teaspoonful three times a day.

For anemia.

℞ Acidi phosphorici diluti .....♏ I (3.)
Fluidextracti condurango .....♏ I (3.)
Elixiris aromatici .....℥ ij (60.)
Misce.
Sig.: Teaspoonful three times a day.

Useful after indigestion.

℞ Acidi sulphurici diluti .....♏ xxx (2.)
Fluidextracti hydrastis .....♏ xxx (2.)
Extracti malti .....ʒ ij (60.)
Misce.
Sig.: Teaspoonful every four hours.

For chronic bronchitis, enteritis, etc.

Other Prescriptions.

℞ Hexamethylenamini .....gr. xxiv (1.5)
Atropini sulphatis .....gr. 1/20 (.003)
Aquæ gaultheria .....ʒ ij (60.)
Misce.
Sig.: Teaspoonful two times a day.

For enuresis for a child of 4 years.

℞ Aspirin .....gr. L
Syrupi acaciæ.....ʒ ij (60.)
Misce.
Sig.: Teaspoonful every three hours.

For rheumatism and chorea.

Suppositoria.

℞ Suppositoria glycerini .....No. x
Sig.: Insert 1 into the rectum when an evacuation is wanted.

This is to be used only when the rectum refuses to respond to less irritating stimuli.

℞ Suppositoria olei theobromatis.
Sig.: Use 1 ounce daily.

This usually promotes an evacuation after some time. It can be inserted into the rectum at bedtime.

℞ Ichthyolis .....gr. xv (1.)
Extracti hydrastis .....gr. iij (.2)
Acidi tannici .....gr. v (.3)
Olei theobromatis .....ʒ iij (12.)
Misce et fiant suppositoria No. XV.

For irritable rectum, as in colitis, proctitis, or prolapse of the rectum.

External Applications.

℞ Mentholis .....gr. j (.06)
Camphoræ .....gr. j (.06)
Thymolis iodidi .....gr. j (.06)
Petrolati liquidi .....ʒ ij (60.)
Misce.
Sig.: Place a drop in each nostril several times a day.

Valuable in acute coryza.

℞ Thymolis iodidi .....ʒ ss (2.)
Petrolati .....ʒ j (30.)
Misce.

Useful ointment in superficial erosions, ulcers, impetigo, chicken-pox, etc.

℞ Guaiacolis .....♏ xxx (2.)
Adipis lanæ .....ʒ j (30.)
Misce.
Sig.: Apply externally.

Very useful application externally in chest diseases.

A Few Well-Known Valuable Prescriptions.

℞ Hydrargyri cbloridi mitis gr. ij (.15)
Sodii bicarbonatis .....gr. xv (1.)
Misce et divide in pulveres No. XV.
Sig.: 1 every two hours until 6 are taken.

Valuable in all fermentative conditions of the alimentary canal.

℞ Hydrargyri chloridi mitis gr. j (.06)
Pulveris aromatici.....gr. ij (.15)
Pulveris ipecacuanhæ et opii.....gr. iss (.1)
Bismuthi subnitratis .....ʒ j (4.)
Misce et divide in pulveres No. XV.
Sig.: 1 every two hours.

No more valuable prescription has been devised for gastroenteric infection.

℞ Bismuthi subcarbonatis .....gr. lxxv (5.)
Syrupi rhei aromatici,
Misturæ cretæ .....āā ℥ j (30.)
Misce.
Sig.: Teaspoonful every three hours.

Useful in diarrhea.

℞ Phenylis salicylatis .....gr. xv (1.)
Olei olivæ .....3 j (4.)
Pulveris acaciæ.....gr. xxxv (2.)
Syrupi rhei aromatici .....℥ j (30.)
Aquæ anisi .....q. s. ad ℥ ij (60.)
Misce.
Sig.: Teaspoonful every three hours.

Indicated in putrefactive diarrhea.

℞ Magnesii oxidi .....gr. xl (3.)
Tincturæ asafetidæ .....3 ij (8.)
Tincturæ opii .....gtt. xl (1.2)
Aquæ .....℥ ij (60.)
Misce.
Sig.: Dose, 10 to 20 drops.

This is the famous Dewees carminative. Very valuable in severe intestinal colic. By leaving out the opium it is usually just as serviceable and safer in the family.

℞ Bismuthi subnitratis.....3 ss (2.)
Cerii oxalatis.....gr. vii (.5)
Sodii bicarbonatis.....3 ss (2.)
Misce et divide in chartæ No. XV.
Sig.: 1 every three hours.

Useful in vomiting from acute gastric indigestion.

℞ Bromoform .....♏ xv (1.)
Olei amygdalæ expressi .....3 j (4.)
Pulveris acaciæ.....gr. xxx (2.)
Aquæ anisi .....q. s. ad ℥ ij (60.)
Misce.
Sig.: Teaspoonful every four hours.

For whooping-cough.

℞ Vini ipecacuanhæ .....℥ xxx (2.)
Spiritus ætheris nitrosi .....ʒ j (4.)
Liquoris ammonii acetatis .....ʒ iss (6.)
Aquæ chloroformi .....ʒ ss (15.)
Aquæ anisi .....q. s. ad ʒ ij (60.)
Misce.
Sig.: Teaspoonful every three hours.

For acute bronchitis.

℞ Ammonii chloridi .....gr. xv (1.)
Potassii iodidi .....gr. viij (.5)
Misturæ glycyrrhizæ compositæ ....ʒ ij (60.)
Misce.
Sig.: Teaspoonful every three hours.

For bronchitis.

℞ Santonin .....gr. iij (.2)
Hydrargyri chloridi mitis .....gr. vj (.4)
Sodii bicarbonatis .....gr. xij (8.)
Misce et divide in chartæ No. VI.
Sig.: give 1 at night to a child of 5 years.

For the round or pin worms.

℞ Hydrargyri chloridi corrosivi.....gr. 1/20 (.003)
Potassii iodidi .....gr. xv (1.)
Tincturæ opii camphoræ .....℥ xv (1.)
Syrupi .....ʒ ss (15.)
Aquæ .....q. s. ad ʒ ij (60.)
Misce.
Sig.: Teaspoonful three times a day.

Or:

℞ Hydrargyri cum creta .....gr. iij (.2)
Pulveris ipecacuanhæ et opii.....gr. iss (.1)
Misce et divide in chartæ No. XV.
Sig.: 1 three times a day.

For congenital syphilis in an infant.

℞ Potassii chlorati .....gr. xxx (2.)
Tincturæ myrrhæ .....♏ xxx (2.)
Aquæ .....℥ iv (120.)
Misce.

Mouth wash for ulcerative stomatitis.

℞ Sodii salicylatis .....gr. xxx (2.)
Sodii benzoatis .....gr. xxx (2.)
Aquæ anisi .....℥ ij (60.)
Misce.
Sig.: Teaspoonful every three hours.

For tonsillitis.

℞ Oleoresinæ asipidii .....℥ j (4.)
Sig.: 10 drops in milk every hour, three doses.

In tapeworm for a child of 5 years.

℞ Atropini sulphatis .....gr. 1/20 (.003)
Aquæ .....℥ ij (60.)
Misce.
Sig.: Teaspoonful two times a day.

For enuresis in a child of 4 years.

℞ Liquoris potassii arsenitis.....℥ j (30.)
Sig.: 3 drops in water three times a day.

For chorea in a child of 8 years.

℞ Liquoris arsenii et hydrargyri iodidi ℥ j (30.)
Sig.: 1 drop in water three times a day.

For diabetes mellitus in a child of 7 years.

℞ Acidi salicylici .....gr. xl (3.)
Tincturæ lavendulæ compositæ ....℥ j (4.)
Glycerini .....℥ iij (12.)
Aquæ .....q. s. ad ℥ ij (60.)
Misce.
Sig.: Teaspoonful in water every three hours for a child of 4 years.

Reliable for rheumatism.

℞ Acidi gallici ..... gr. ij (.14)
Acidi sulphurici diluti ..... ♏ xxx (2.)
Aquæ ..... q. s. ad ℥ ij (60.)
Misce.
Sig.: Teaspoonful in water every four hours.

For hemorrhagic nephritis, hematuria, etc.

℞ Potassii citratis ..... gr. xxx (2.)
Spiritus ætheris nitrosi ..... ℥ j (4.)
Aquæ ..... ℥ ij (60.)
Misce.
Sig.: Teaspoonful every three hours.

Useful diuretic in mild fevers.

℞ Liquoris ferri subsulphatis ..... ♏ xxx (2.)
Aquæ ..... ℥ iv (120.)
Misce.
Sig.: Use with atomizer.

For nasal hemorrhage.

℞ Potassii bromidi ..... ℥ ij (8.)
Infusi adonidis vernalis ..... ℥ j (30.)
Aquæ ..... ℥ iv (120.)
Misce.
Sig.: Teaspoonful three times a day.

For epilepsy in a child of 6 years.

℞ Acidi salicylici ..... gr. vij (.5)
Pulveris amyli ..... ℥ ij (8.)
Pulveris zinci oxidi ..... ℥ ij (8.)
Petrolati ..... ℥ ss (15.)
Misce.
Sig.: Apply locally.

Paste for eczema of face and hands.

R Aquæ hamamelidis ..... ℥ vi (180.)
Sig.: Apply externally.

Useful in contusions, abrasions, and congestions of the skin or mucous membrane.

DIAGNOSTIC INDEX.

(See page 275 for Therapeutic Index.)

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THERAPEUTIC INDEX.

(See page 255 for Diagnostic Index.)